



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

**Natural Gas Distribution Infrastructure Safety and Modernization Grant Program
City of Charlottesville, VA Tier 2 Site Specific Environmental Assessment
NGDISM-FY 22-EA-2023-05**

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: PHMSABILGrantNEPAComments@dot.gov and reference NGDISM-EA-FY22-2023-05 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, mitigation measures or prepare an Environmental Impact Statement.

I. Project Description/Proposed Action

Project Title	City of Charlottesville
Project Location	City of Charlottesville, Albemarle County, Virginia
Project Description/Proposed Action:	
<p>The project consists of installing 7,000 linear feet of buried 4-inch high-density polyethylene (HDPE) pipe to replace a 10-inch cast iron main line, and installing 6,000 linear feet of 2-inch HDPE pipe to replace first generation polyethylene pipe. The project is designed to enhance safety, improve operations, and reduce methane emissions of natural gas in the City of Charlottesville's natural gas system. Additionally, work would include the removal of 20 gas meters from the interior of various buildings for safer access. A total of 13,000 linear feet of pipeline would be replaced adjacent to the existing lines. Installation would be performed by cut and cover (trenching) 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 City of Charlottesville would utilize an open trench method, which generally involves greater soil disturbance and use of heavy equipment and related impacts than the insertion method.</p> <p>This replacement would be installed through the West Main Street and University Avenue corridors and would include uprating and/or replacing the existing gas lines along several adjoining roads and neighborhoods. The project would include the installation of new 2-inch and 4-inch HDPE pipe along West Main Street, University Avenue, Jefferson Park Avenue, Elliewood Avenue, Madison Lane, Chancellor Street, Brown Street, Elsom Street, Rugby Road, 5th Street NW, and 6th Street NW. This would allow the City of Charlottesville to operate the newly installed system at a pressure of 90 pounds per square inch (PSI). The 20 gas meters are located</p>	

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

along the roads where pipeline replacement activities would occur. See Appendix A, Project Map.

The vulnerable pipeline to be replaced is located within the City of Charlottesville's existing, paved, right-of-way (ROW) and would not require new ROW or easements. The existing pipes 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 CFR 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, the City of Charlottesville 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 and as a result, methane leaks and safety risks would not be reduced by replacing natural gas pipeline prone to leakage. Under this alternative, the City of Charlottesville would continue to use vintage cast-iron, first-generation polyethylene, and other 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 City of Charlottesville 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 the Project:

The existing cast iron mains have been in service for nearly 100 years and need to be replaced in order to increase the safety and reliability of the City of Charlottesville's natural gas infrastructure and reduce the exposure risk of associated gas leaks. The overall needs addressed by this project would include: (1) improving upon the safe delivery of energy by reducing incidents, as well as methane leaks; (2) avoiding economic losses caused by pipeline failures; and (3) protecting the 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 replaces gas pipeline along a densely populated, fully developed, mixed-use corridor. The project has the potential to benefit disadvantaged communities by increasing access to safe natural gas for cooking, heating, and hot water while reducing the City's dependence on coal-powered energy. The project would increase the safety and resilience of the pipeline, reducing the risk of gas leaks in this vulnerable community.

II. Resource Review

Air Quality and Greenhouse Gases (GHG)	
Question	Information and Justification
Is the project located in an area designated by the EPA as non-attainment or maintenance status for one or more of the National Ambient Air Quality Standards (NAAQS)?	No based on a review of the EPA Greenbook. ²
Will the construction activities produce emissions that exceed de minimis thresholds (tons per year) described in the initial Tier 2 EA worksheet?	N/A
Will mitigation measures be used to capture blowdown ³ ?	Yes
Does the system have the capability to reduce pressure on the segments to be replaced? If yes, what is the lowest psi your system can reach prior to venting?	Yes, 7 inches of water column (0.25 PSI).
Will project proponent commit to reducing pressure on the line to this psi prior to venting? Please calculate venting emissions based on this commitment and also provide comparison figure of venting emissions volume without pressure reduction/drawdown using calculation methods identified in the initial Tier 2 EA worksheet.	Yes. Pressure would be reduced to 0.25 PSI and the resulting blowdown would be flared; therefore, there would be no methane emissions.
Estimate the current leak rate per mile based on the type of pipeline material. Based on mileage of replacement and new pipeline material, estimate the total reduction of methane.	The existing leak rate is 6,312 kg/year. Replacement would result in a leak rate of 71 kg/year or a reduction of 124,821 kg over a 20-year timeframe.
<p>Conclusion:</p> <p>The project area is located within the City of Charlottesville in Albemarle County, VA which is designated by the EPA as in attainment for all National Ambient Air Quality Standards (NAAQS). The existing mains within the project area consist of leak prone cast iron natural gas mains that were installed over a hundred years ago.</p> <p>No Action:</p> <p>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 vintage cast iron and other leak prone pipe material. The total methane emissions for the 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 6,312 kg of methane would be released each year from the existing pipelines within the project area. This amounts to 126,239 kg of methane over a 20-year</p>	

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.

time frame. See Appendix B, Methane Calculations, for the methane leak rate calculations.

Proposed Action:

The Proposed Action alternative consists of replacing 1.3 miles of cast iron pipe and 1.1 miles of vintage plastic pipe which would result in minor air quality impacts associated with construction activities. Pipeline blowdowns are typically necessary to ensure that construction and maintenance work can be conducted safely on depressurized natural gas facilities and pipelines. The City of Charlottesville would reduce the pressure to 0.25 pounds per square inch (PSI) before switching service to the new lines. Based on an operating pressure of 0.25 PSI and the existing 2-inch and 10-inch pipe diameters, PHMSA estimates 4.0 MCF of methane (or 123.3 kg) would need to be vented into the atmosphere or flared. The US Department of Energy defines flaring as *the controlled combustion of natural gas for operational, safety, or economic reasons. Venting is the direct release of natural gas into the atmosphere.*⁴ When flaring occurs, methane is oxidized to carbon dioxide and water through combustion. Flaring is considered more advantageous from an environmental standpoint, when conducted correctly, compared to venting, because methane is a more potent greenhouse gas than the carbon dioxide released during flaring.⁵ The City of Charlottesville would flare the remaining gas, resulting in no methane emissions. In order to ensure that the City of Charlottesville is abiding by all pertinent regulations related to flaring, PHMSA is including a mitigative measure to emphasize that the City of Charlottesville should coordinate with all applicable federal, state and local agencies, before flaring takes place.

As described in the Tier 1 EA, methane leaks from natural gas distribution pipelines increase with age and are considerably higher for cast iron and 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 6,241 kg per year. With a life expectancy of approximately 20 years, the total reduction in methane emissions resulting from the conversion to plastic pipeline would be approximately 124,821 kg (over the 20-year span post construction). See Appendix B, Methane Calculations, for the methane reduction calculations. PHMSA's assessment is 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 City of Charlottesville 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.

⁴ <https://www.energy.gov/sites/prod/files/2019/08/f65/Natural%20Gas%20Flaring%20and%20Venting%20Report.pdf>

⁵ DOE Flaring and Venting R&D: Reducing Emissions and Developing Valuable Low-Carbon Products | Department of Energy

- Minimizing construction site traffic by the use of offsite parking and shuttle buses, as necessary.

The City of Charlottesville shall reduce pressure to at least 0.25 PSI and coordinate with local, state and federal agencies as appropriate, before flaring occurs.

Water Resources	
Question	Information and Justification
Are there water resources within the project area, such as wetlands, streams, rivers, or floodplains? If so, would the project temporarily or permanently impact wetlands or waterways?	No, according to U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI), and Federal Emergency Management Agency (FEMA) National Flood Hazard Layer FIRMette maps.
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
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
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?	No
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
Will the proposed project activities potentially occur within a coastal zone ⁶ or affect any coastal use or natural resource of the coastal zone, requiring a Consistency Determination and Certification?	No, based on a review of the Virginia Coastal Zone Management Program's Virginia in the Coastal Geospatial and Educational Mapping System (GEMS) online geodatabase ⁷ , the project area does not fall within the coastal zone.
<p>Conclusion:</p> <p>PHMSA reviewed various resources to assist in identifying potential aquatic features including wetlands, streams, and other water resources in or near the project area. Based on a review of the NWI maps, Natural Resources Conservation Service's (NRCS) soils maps and U.S. Geological Survey topographic maps, there are no streams, wetlands or other natural aquatic resources identified in the project area.</p> <p>PHMSA also reviewed FEMA's National Flood Hazard Layer to identify any Special Flood Hazard Areas potentially</p>	

⁶ 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.)

⁷ <https://gaia.vcu.edu/GemsMap/>

impacted by the project. The FIRMette map indicates the project includes areas designated as Zone X. Areas designated as Zone X are outside of any designated special flood hazard areas.

Additionally, the project is not located in a Coastal Zone. See Appendix C, Water Resources.

No Action:

Under the No Action alternative, the existing pipeline would remain in the current location and normal maintenance activities would continue. There are no aquatic resources in or near the project area; therefore, no aquatic resources would be impacted by maintenance activities.

Proposed Action:

The Proposed Action alternative includes replacing approximately one mile of existing pipelines within paved areas of the existing ROW. The existing gas lines would remain in their current location and would be purged of natural gas and then sealed on each end. All new gas lines would be installed at a depth approximately 36 inches below grade and located within existing ROW.

As noted above, there are no aquatic resources identified in the project area, therefore, there would be no direct impact to wetlands or other waters. A mitigative measure would be added to ensure that any exposed soils are stabilized during construction and all affected areas are restored to pre-construction conditions. Based on information provided by the City of Charlottesville and a review of available information, PHMSA has determined that there would be no permanent impacts to water resources located within the project area. The pipeline placement and 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 would be no adverse impacts to water resources.

Mitigation Measures:

The City of Charlottesville shall utilize best management practices, as appropriate, to control sediment and erosion during construction which may include silt fencing, check dams, and restoring all disturbed areas to pre-construction conditions.

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, according to USFWS National Wetland Inventory (NWI), and Federal Emergency Management Agency (FEMA) National Flood Hazard Layer FIRMette maps.
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.	No
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	No, the project site would not involve contact with any hazardous waste. There is no indication that the pipeline was ever used to convey coal gas.

proponent for required studies.	
Does the project have the potential to encounter or disturb lead pipes or asbestos?	No
<p>Conclusion:</p> <p>PHMSA reviewed EPA's NEPAassist website to identify any brownfields, hazardous waste, or superfund sites in the project area.⁸ No sites were identified within the project area. See Appendix D, Hazardous Materials. PHMSA also obtained a custom soil report for the project area from the NRCS's web soil survey which indicates that the project area is comprised of soils classified as Cullen-Urban land complex, Culpeper-Urban land complex, Udorthents and Urban land. All of these soils are well-drained soils where the depth to the water table is found greater than 80 inches.</p> <p>No Action:</p> <p>Under the No Action alternative, the cast iron 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.</p> <p>Proposed Action:</p> <p>Under the Proposed Action alternative, the City of Charlottesville would replace the new gas lines immediately adjacent to the existing gas lines, within paved areas of the ROW. The existing gas line would be abandoned, in accordance with PHMSA requirements, and would be purged of natural gas and sealed on each end. The new gas lines would be installed at a depth of at least 36 inches below grade and would be installed by trenching methods. All disturbed areas would be re-paved (as appropriate) and restored to preexisting conditions. Because the water table is found well below the areas to be disturbed, it is not anticipated that groundwater would be intercepted during construction activities and no wetlands or streams were identified in the project area.</p> <p>PHMSA's assessment is that there would be no adverse impacts to groundwater associated with the project. 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 project. Additionally, PHMSA has not identified any indirect or cumulative effects to groundwater or hazardous materials.</p> <p>Mitigation Measures:</p> <p>In the event of a release of hazardous materials/waste into the environment during construction, the City of Charlottesville shall notify the appropriate emergency response agencies, potentially impacted residents, and</p>	

⁸ <https://nepassisttool.epa.gov/nepassist/nepamap.aspx?wherestr=Norwich+Ct>

⁹ Insert Gas Main Flexible Liners at <https://www.epa.gov/sites/default/files/2016-06/documents/insertgasmainflexibleliners.pdf#:~:text=Methane%20emissions%20reductions%20come%20from%20lower%20leakage%20rates,pipe%20and%20external%20corrosion%20in%20unprotected%20steel%20piping.>

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, silt fence, check dams, covering of all bare areas, all impacted areas would be restored to pre-construction contours, and/or permanent stabilization with appropriate material mitigation actions would be implemented as required.
Will the project require unique impacts related to soils?	No
Conclusion: <p>PHMSA obtained a custom soil report for the project area from the NRCS's web soil survey which indicates that the project area is comprised of various soils including Cullen-Urban land complex, Culpeper-Urban land complex, Urban land and udorthents. See Appendix E, Soils Report. All of these soil types are identified as having an urban component meaning there has likely been some type of disturbance. All soils are 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 very few areas, if any, that remain in a natural state. Therefore, while the soils report provides valuable information, it is noted that the soils have been disturbed and likely contain some degree of fill material brought in as a suitable base for construction.</p> No Action: <p>Under the No Action alternative, the cast iron and vintage plastic 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.</p> Proposed Action: <p>The City of Charlottesville would replace cast iron and vintage plastic pipelines within paved areas of the existing ROW. The new gas lines would be installed at a depth of 36 inches below grade and would be installed by trenching methods. All disturbed areas would be restored to pre-existing conditions. Therefore, PHMSA's assessment is that there would be no adverse impact to soils resulting from the Proposed Action alternative. Additionally, there are no indirect or cumulative impacts anticipated as the City of Charlottesville would restore all areas to pre-construction conditions.</p> Mitigation Measures: <p>The City of Charlottesville shall ensure erosion and sedimentation controls (silt fence and/or haybales) will be utilized as needed, all impacted areas will be restored to pre-construction contours, and permanent soil stabilization will be implemented immediately upon completion of work.</p>	

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? ¹⁰ If no, no further analysis is required.	Yes, based on review of the USFWS's Information for Planning and Consultation (IPaC) and National Oceanic and Atmospheric Administration's (NOAA) Fisheries website. Additionally, the Virginia Department of Wildlife Resources 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 no, provide justification and avoidance measures. If yes, PHMSA will work with the project proponent to conduct necessary consultation with resource agencies.	No
<p>Conclusion:</p> <p>PHMSA requested an official species list through the USFWS's IPaC website. See Appendix F, Biological Resources, for the IPaC species list. The following were identified as potentially occurring within the geographic area:</p> <ul style="list-style-type: none"> • Monarch Butterfly (insect) <i>Danaus plexippus</i> -Candidate • Northern Long-eared Bat (mammal) <i>Myotis septentrionalis</i>- Endangered • Tricolored Bat (mammal) <i>Perimyotis subflavus</i>- Proposed Endangered <p>Monarch butterflies are found wherever suitable feeding, breeding, and overwintering habitat exists. As caterpillars, monarchs feed exclusively on the leaves of milkweed. As adults, monarchs feed on nectar from a wide range of blooming native plants, including milkweed.¹¹</p> <p>The northern long-eared bat is a wide-ranging, federally threatened bat species, found in 37 states and eight provinces in North America.¹² The species typically overwinters in caves or mines and spends the remainder of the year in forested habitats. As its name suggests, the Northern long-eared bat is distinguished by its long ears, particularly as compared to other bats in the genus <i>Myotis</i>.</p> <p>The tricolored bat is a small insectivorous bat that typically overwinters in caves, abandoned mines and tunnels, and road-associated culverts (southern portion of the range) and spends the rest of the year in forested habitats, typically roosting among live and dead leaf clusters. The tricolored bat is one of the smallest bats native to North America and is found across the eastern and central United States and portions of southern Canada, Mexico and Central America. The tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip.</p> <p>There is no suitable habitat for these species located within the project area due to the disturbed nature and very limited vegetation in the ROW. Additionally, the Virginia Department of Wildlife Resources' Fish and Wildlife Information Service site was reviewed to assist in identifying potential species protected by the State in</p>	

¹⁰ <https://ipac.ecosphere.fws.gov/> and <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>

¹¹ <https://www.fws.gov/species/monarch-danaus-plexippus>

¹² <https://ecos.fws.gov/ecp/species/9045>

the project area.¹³ A list of federal and 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 very 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 project area is in an environment where the areas of disturbance would be contained within existing transportation corridors and would involve the installation of pipeline under paved road surfaces. Because these areas are within ROW that has been previously impacted (pipeline laid in the ground in close proximity to the location where new pipes would be laid and subsequently re-paved), the immediate project area has very limited biological resources present and does not contain suitable habitat for either federal or state listed species. As a result, it was determined that the project is unlikely to have any detrimental effects to federally-listed species or critical habitat and PHMSA's assessment is that the project would have no effect to the Northern long-eared bat. Under Section 7(a)(4) of the Endangered Species Act (ESA), Federal agencies must confer with the USFWS if their action will jeopardize the continued existence of a proposed species. As a candidate species, the monarch butterfly receives no statutory protection under the ESA. The tricolored bat is proposed for listing and the project is unlikely to jeopardize this species' existence. 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 no impacts to habitat or species would occur.

Mitigation Measures:

No mitigative measures are necessary.

Cultural Resources	
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 proposed project consists of replacing the last mile of 10-inch cast-iron main line with 4-inch high-density polyethylene (HDPE) pipe under a roadway, replacing first generation polyethylene and other vintage plastic pipe with 2-inch HDPE under pavement, and relocating 20 gas meters from the interior of various buildings to the exterior for safer access.
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	Yes.

¹³ <https://services.dwr.virginia.gov/fwis/index.asp?Menu=Home.Geographic+Search>

Office. ¹⁴	
Does the project or any part of the project take place on tribal lands or land where a tribal cultural interest may exist? ¹⁵	No. The US Department of the Interior, Indian Affairs, lists Federally Recognized Tribes, and there are none in the Charlottesville, Virginia area ¹⁶ .
Are there any nearby properties or resources that either appear to be or are documented to have been constructed more than 45 years ago? ¹⁷ 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. The project area includes historic buildings and sites.
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. The proposed project is within the previously disturbed ROW.
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.	Yes. Some brick sidewalks will be disturbed.
<p>Conclusion:</p> <p>PHMSA must consider the impact of projects for which they provide funding on historic and archeological properties¹⁸ in accordance with Section 106 of the National Historic Preservation Act (Section 106). 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. Based on the proposed scope of work, PHMSA has delineated the APE for this project to encompass the existing ROW, which includes the limits of disturbance, and the properties where gas meters are being moved. The APE extends to the depth of proposed ground disturbance of up to 36 inches below grade. See Appendix E, Cultural Resources, for the APE.</p> <p>No Action:</p> <p>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 required.</p>	

¹⁴ Many SHPOs have an [online system](https://www.nps.gov/subjects/nationalregister/state-historic-preservation-offices.htm) at <https://www.nps.gov/subjects/nationalregister/state-historic-preservation-offices.htm> that can tell you previously identified historic properties in your project area. The [National Register list](https://www.nps.gov/subjects/nationalregister/database-research.htm) at <https://www.nps.gov/subjects/nationalregister/database-research.htm> can also be accessed online.

¹⁵ The SHPO may have information on areas of tribal interest, or a good source is the [HUD TDAT website](https://egis.hud.gov/TDAT/) at <https://egis.hud.gov/TDAT/>.

¹⁶ <https://www.bia.gov/service/tribal-leaders-directory/federally-recognized-tribes>

¹⁷ Local tax and property records or historic maps may indicate dates of construction.

¹⁸ 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.

Proposed Action:

PHMSA staff identified properties based on available information on previously identified historic properties in the APE, including the National Register of Historic Places (NRHP) database and data received from the Virginia Division of Historical Resources. PHMSA staff 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. PHMSA has identified six historic properties as defined in 36 CFR 800.16(l) within the APE, including those being treated as eligible for the purposes of consultation: West Main Street Historic District, Rugby Road-University Corner Historic District, Starr Hill Historic District, Sears Roebuck & Company (Stacey Hall), Cushman Building, Howard Johnson Motel. While these six historic properties are located in the APE, the Undertaking will not alter any of the characteristics or contributing features of these historic properties that qualify them for inclusion in the NRHP in a manner that would diminish their integrity. Gas meter relocations will take place at two contributing properties within the West Main Street Historic District (123 4th Street NW and 325 Main Street W), as well as at the Sears Roebuck & Company (Stacey Hall), Cushman Building, and Howard Johnson Motel. Gas meter relocations will consist of moving an existing gas meter from the interior of the building to the exterior for safer access, which is a minimal change and will not result in any physical alterations to the buildings. Work within the Rugby Road-University Corner Historic District, Starr Hill Historic District, and the rest of the West Main Street Historic District will be limited to the below-ground replacement of pipelines within the existing ROW. No character-defining materials or features of any of these six historic properties will be removed or altered as a result of the Undertaking. The Undertaking will not result in lasting physical, visual, or audible effects to NRHP-listed or eligible historic properties. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of any of the historic properties. Therefore, the Undertaking does not have the potential to adversely affect any of the identified historic properties. Because the exact staging areas for the Undertaking are currently unknown, staging should be confined to paved areas. A mitigative measure will be included that states that if staging cannot be confined to paved areas, geotextile fabric or other similar protective measures (such as pressure distributing mats) must be laid in any affected unpaved area to minimize ground disturbance, prevent soil compaction, and protect potential archaeological features and artifacts. Based on this assessment, in accordance with 36 CFR Part 800.5, PHMSA's assessment is that the Undertaking will have No Adverse Effect on historic properties.

A letter was sent on December 29, 2023, to the Virginia State Historic Preservation Office (SHPO), federally recognized tribes with a potential interest in the project area, and all consulting parties 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. Based on this consultation, PHMSA proposed a finding that the Proposed Action would not adversely affect historic properties. 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 more information.

Mitigation Measures:

If, during project implementation, a previously undiscovered archeological 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 City of Charlottesville 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 City of Charlottesville 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.

Staging areas for the Undertaking are currently unknown. Staging should be confined to paved areas; if staging cannot be confined to paved areas, geotextile fabric or other similar protective measures (such as pressure distributing mats) must be laid in any affected unpaved area to minimize ground disturbance, prevent soil compaction, and protect archaeological features and artifacts.

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.	No
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.	N/A
<p>Conclusion:</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>PHMSA conducted a review of properties that are located within the project area to identify potential properties that may qualify as Section 4(f). No Section 4(f) properties are located within or immediately adjacent to the</p>	

project area.

No Action:

Under the No Action alternative, there would be no change to existing pipeline infrastructure pursuant to federal funding or approval authorized 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 occur within or adjacent to 4(f) properties. Therefore, there would be no use of Section 4(f) resources.

Mitigation Measures:

There are no 4(f) resources identified in the project area and therefore, no mitigation measures are necessary.

Land Use and Transportation	
Question	Information and Justification
Will the full extent of the project boundaries remain within the existing right-of-way or easements? If no, please describe any right-of-way acquisitions or additional easements needed.	Yes
Will the project result in detours, transportation restrictions, or other impacts to normal traffic flow or to existing transportation facilities during construction? Will there be any permanent change to existing transportation facilities? If so, what are the changes, and how would the changes affect the public?	Yes. Impacted construction areas would be restored to pre-construction conditions; property owners would be informed about construction activities; traffic control plans would be implemented; there would be coordination with emergency services and other agencies, and residents and business would be notified of parking impacts.
Will the project interrupt or impede emergency response services from fire, police, ambulance or any other emergency or safety response providers? If so, describe any coordination that will occur with emergency response providers?	No

Conclusion:

The project is located along various streets in the City of Charlottesville, as shown in Appendix A, Project Map within urbanized areas consisting of commercial and residential areas.

No Action:

Under the No Action alternative, the cast iron 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 City of Charlottesville is proposing to replace pipeline infrastructure within paved areas of the existing ROW and would not include adding pipeline to serve new areas. During construction, there may be short-term impacts to adjacent residences, businesses, and normal traffic patterns. Potential impacts include an increase in noise, dust, and transportation accessibility, as a result of construction and construction staging. Local and state regulations guide the transport of machinery, equipment, and automobiles around the construction areas. Temporary traffic impacts may occur on the local road network and adjacent pedestrian routes. The project may result in detours. Consideration of emergency response vehicles, travel restrictions, and other impacts to local transportation are anticipated to be temporary and would only last for the duration of construction. Minor disruptions to on street parking may occur, but access to existing residences and businesses is not anticipated. The City of Charlottesville would coordinate with the appropriate local and state agencies regarding interruptions to traffic and detours and appropriate protocol would be used where traffic would be temporarily diverted to one-lane. Normal traffic flow would be maintained to the extent possible and traffic control measures would be utilized to assist traffic negotiating through construction areas, as needed. The City of Charlottesville would notify emergency services of the scheduled work and traffic implications of the work that would be conducted and would use various methods of communication to notify any potentially impacted residents, business owners, and the general public. 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.

PHMSA considered the cumulative effects of this action with ongoing and planned transportation related construction projects that could cumulatively impact land use and transportation. The City of Charlottesville has various projects on going throughout the City. All municipalities and businesses must abide by the same requirements and coordinate with state and local agencies on any disruptions to normal traffic patterns. Through this coordination, the overall cumulative effects of multiple projects occurring would be minimized by planning and scheduling efforts with responsible agency oversight. Land use changes are not anticipated as the projects are occurring in an urbanized area that is built out and therefore would not change the existing residential or commercial use.

Mitigation Measures:

The City of Charlottesville shall maintain traffic flows to the extent possible and use traffic control measures to assist traffic negotiating through construction areas, as needed.

The City of Charlottesville shall coordinate with state and local agencies regarding detours and/or routing adjustments during construction and will notify any potentially impacted residents and/or business owners.

The City of Charlottesville shall have a traffic control plan in place, prior to construction, and coordinate with the appropriate agency in advance of any impacted emergency services or essential agency functions.

Noise and Vibration	
Question	Information and Justification
Will the project construction occur for longer than a month at a single project location?	Yes, approximately 1-year.

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. The City of Charlottesville would abide by the City of Charlottesville Code of Ordinances, Chapter 16 - Noise Control ¹⁹ .
Will the project require high-noise and vibration inducing construction methods? If so, please specify.	Jackhammers, concrete saws, backhoes, heavy equipment, and other engineering equipment would be used, as required.
Will the project comply with state and local ordinances? If so, identify applicable ordinances and limitations on noise/vibration times or sound levels.	Yes. Construction activities would comply with applicable City Ordinances.
Will construction activities require large bulldozers, hoe ram, or other vibratory equipment within 20 feet of a structure?	Semi-trucks, loaders, asphalt mixers, road rollers, graders, excavators, tampers, and other engineering construction equipment would be used.
<p>Conclusion:</p> <p>The project is located in the urban areas of Charlottesville, VA. The ambient noise in the project area consists of a combination of environmental noise from road traffic, construction, industry, the built environment, population density and other sources. There are several sensitive noise receptors (residences, schools, etc.) located adjacent to the streets where work would occur.</p> <p>No Action:</p> <p>Under the No Action, the project would not move forward and the pipelines along the designated streets in the project area would not be replaced at this time, and likely would not be replaced all at once. It is likely that these pipelines would be repaired or replaced due to a leak under emergency conditions. 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.</p> <p>Proposed Action:</p> <p>The pipeline replacement project would result in temporary construction noise impacts; however, no vibration impact should occur. Excavators, dump trucks, skid steers, rollers, pavers, and other similar construction equipment would be used to excavate a trench, lay pipe, compact soils and re-pave the affected areas. The use of construction equipment would result in temporary noise impacts; however, the City of Charlottesville would adhere to the City of Charlottesville Code of Ordinances, Chapter 16 - Noise Control.</p> <p>Individual pieces of equipment may generate noise levels of 80 to 90 dBA (A-weighted decibels) at a distance of 50 feet. Sensitive noise receptors are likely to experience temporary noise impacts while outdoors in the vicinity of the work; however, PHMSA's assessment is that the noise impacts would be minor and temporary and no adverse vibration impacts would result from the proposed work.</p> <p>PHMSA considered the cumulative effects of this action with ongoing and planned transportation related</p>	

¹⁹ [Chapter 16 - NOISE CONTROL | Code of Ordinances | Charlottesville, VA | Municode Library](#)

construction projects that could cumulatively have an impact on the noise and vibration impacts within the City of Charlottesville. Rural areas often have paving, drainage improvement, and other construction or maintenance projects on going which could occur within or near the project area which would contribute to increased noise. These construction and maintenance projects could occur at the same time as the Proposed Action alternative and would contribute to an increase in cumulative noise effects during construction. However, adhering to state and local noise ordinances would ensure the project does not cause cumulatively more than minor adverse noise or vibration impacts.

Mitigation Measures:

The City of Charlottesville shall adhere to the City of Charlottesville Code of Ordinances for noise control and any other applicable ordinances.

Environmental Justice	
Question	Information and Justification
Using the EPA EJScreen or census data ²⁰ , 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 the EPAs EJScreen, the population residing within the general project area for Charlottesville contains 63 percent low income and 41 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?	Yes. Coordinate with local community leaders and groups. Provide advanced notification of service disruptions and construction schedule through local news, the Utilities website, social media, and door hangers.
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?	Yes. Provide public announcements and/or public engagement to reduce project delivery delays and public controversy, as needed. Conduct outreach plans to involve and engage all populations. Coordinate with local community leaders and groups. Provide advanced notification of service disruptions and construction schedule through local news, Utility website, and social media. Continue services maintained at temporary facilities, if appropriate.
<p>Conclusion:</p> <p>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 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 would continue until</p>	

²⁰ <https://www.census.gov/quickfacts/fact/table/US/PST045222>

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 of Charlottesville contains 63 percent low income and 41 percent minority populations. The percentage of these populations is above the Albemarle County average of 24 percent low income and 27 percent minority populations. See Appendix H, 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 City of Charlottesville 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 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. 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. 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 City of Charlottesville shall provide advanced notification of service disruptions and construction schedule to all affected parties including residents and businesses adjacent to the project area. Notifications will be made in both English and Spanish.

Safety	
Question	Information and Justification
Has a risk profile been developed to describe the condition of the current infrastructure and potential safety concerns?	Yes. The threat assessment and risk evaluation is listed in the City of Charlottesville Distribution Integrity Management Plan (DIMP).
Has a public awareness program been developed and implemented that follows the guidance provided by the American Petroleum Institute (API) Recommended Practice (RP) 1162?	Yes
Does the project area include pipes prone to leakage?	Yes, cast iron pipes would be replaced and are prone

	to leaks.
Will construction safety methods and procedures to protect human health and prevent/minimize hazardous materials releases during construction, including personal protection, workplace monitoring and site-specific health and safety plans, be utilized? If yes, document measures and reference appropriate safety plans.	Yes. OSHA, City Gas Operation Manual, City Gas Safety Manual, and other measures would be followed.
Has an assessment of the project been performed to analyze the risk and benefits of implementation?	Yes, the threat assessment and risk evaluation is listed in the City of Charlottesville Distribution Integrity Management Plan (DIMP).

Conclusion:

The proposed project would replace historic, cast iron and vintage plastic pipes. Pipelines that are known to leak based on the material include cast iron, bare steel, wrought iron, and historic plastics with known issues (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. This is reflected in the City of Charlottesville's DIMP plan. PHMSA continues to encourage vintage 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 cast iron and vintage plastic 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 leak-prone pipes are replaced.

Proposed Action:

The proposed project is necessary to replace leak prone pipes. This replacement is in alignment with the City of Charlottesville's DIMP plan, increasing the overall safety of the community.

The project would reduce the risk profile of existing pipeline systems 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 repair, rehabilitation, or 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 CFR 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 cleaned and pose no risk to safety in their abandoned state. Therefore, PHMSA's assessment is that this replacement

project would improve the overall safety of Wakefield's infrastructure.

Mitigation Measures:

The City of Charlottesville 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.

The City of Charlottesville shall use standard construction safety methods and procedures, conduct regular safety audits of crews performing work in the field and conduct subsequent follow-up reporting and/or training, as required.

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-2022-0123²¹. 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 will 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: PHMSABILGrantNEPAComments@dot.gov and reference NGDISM-FY22-EA-2023-05 in your response.

²¹ <https://www.regulations.gov/document/PHMSA-2022-0123-0002/comment>

Appendix A

Project Map

Charlottesville, VA 2022 Gas Grant application, Tier 2, Project Map



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	1.32576	6095
Unprotected steel	2,122.30	0	0
Protected steel	59.1	0	0
Plastic	190.9	1.13636	217
Total Annual Methane Leak Rate			6312
20-year Methane Emissions			126239

Table 3 Proposed Action Leak Rate

Pipeline Material Type	Average Rate (kg/mile/year)	Miles	New Methane Leak Rate (kg/year)
Plastic	28.8	2.46212	71
Year 1 Methane Reduction			6241
Annual Methane Reduction			6241
20-year Methane Reduction			124821

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

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

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

$$V = \pi \times \frac{d^2}{4} \times L \quad (2)$$

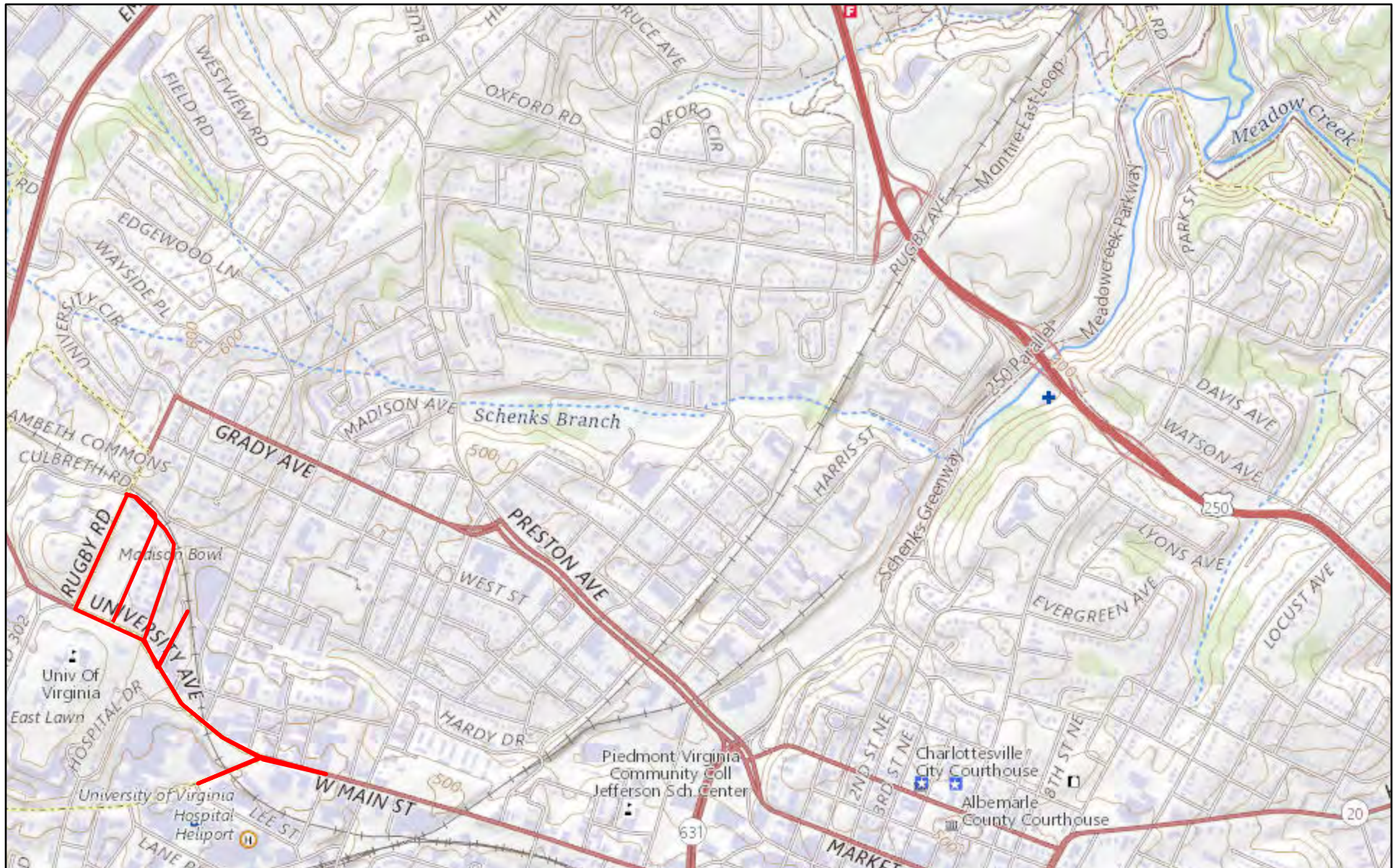
Table 4 Proposed Action - Methane Blowdown

Inputs	2" Pipe Section	10" Pipe Section
Diameter (inches)	2	10
Blowdown Pressure	0.25	0.25
Length of Blowdown (feet)	6000	7000
Blowdown (MCF)	.1	3.9
Blowdown (kg)	123.3	

Appendix C

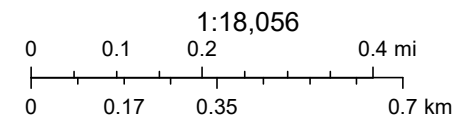
Water Resources

Potential Water Resources



October 2, 2023

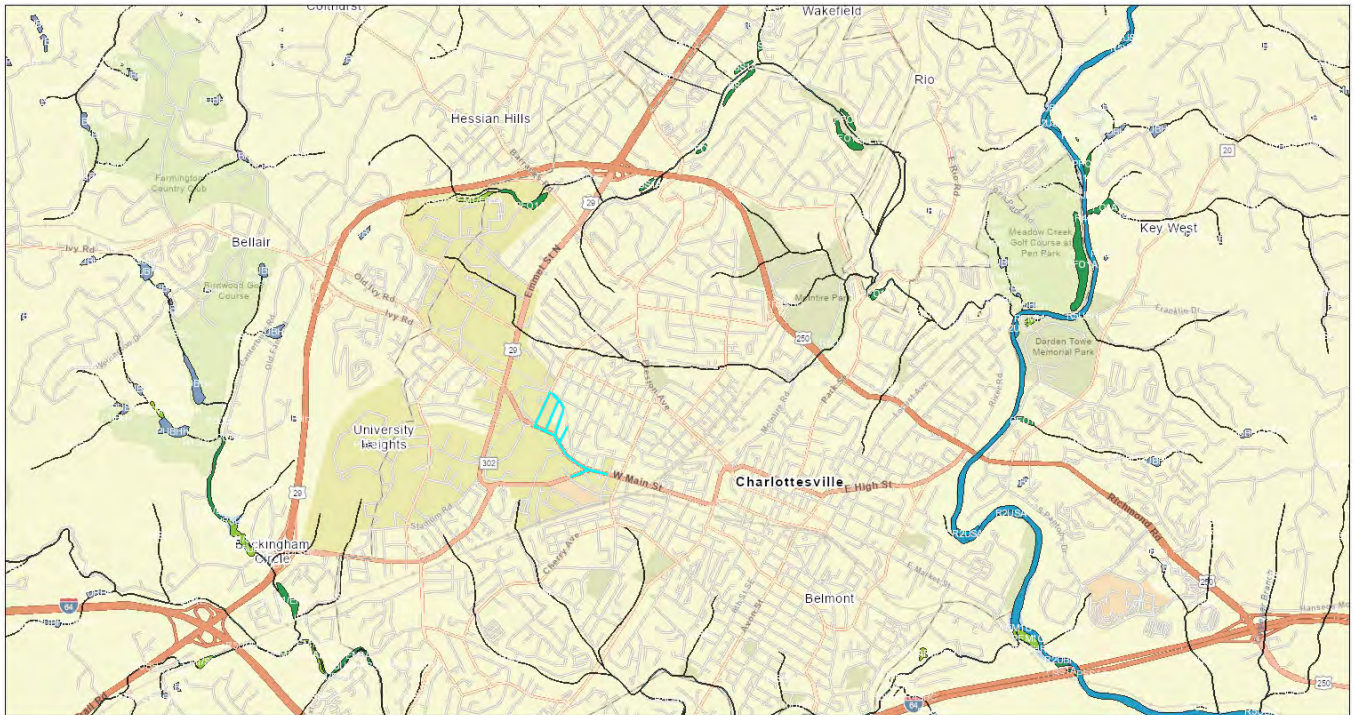
City of Charlottesville



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography

City of Charlottesville

Map



October 2, 2023

City of Charlottesville

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Other

Riverine

1:38,028

0 0.38 0.75 1.5 mi

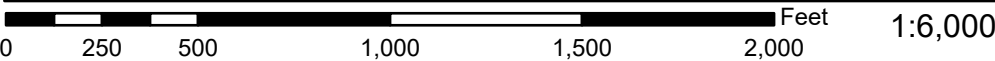
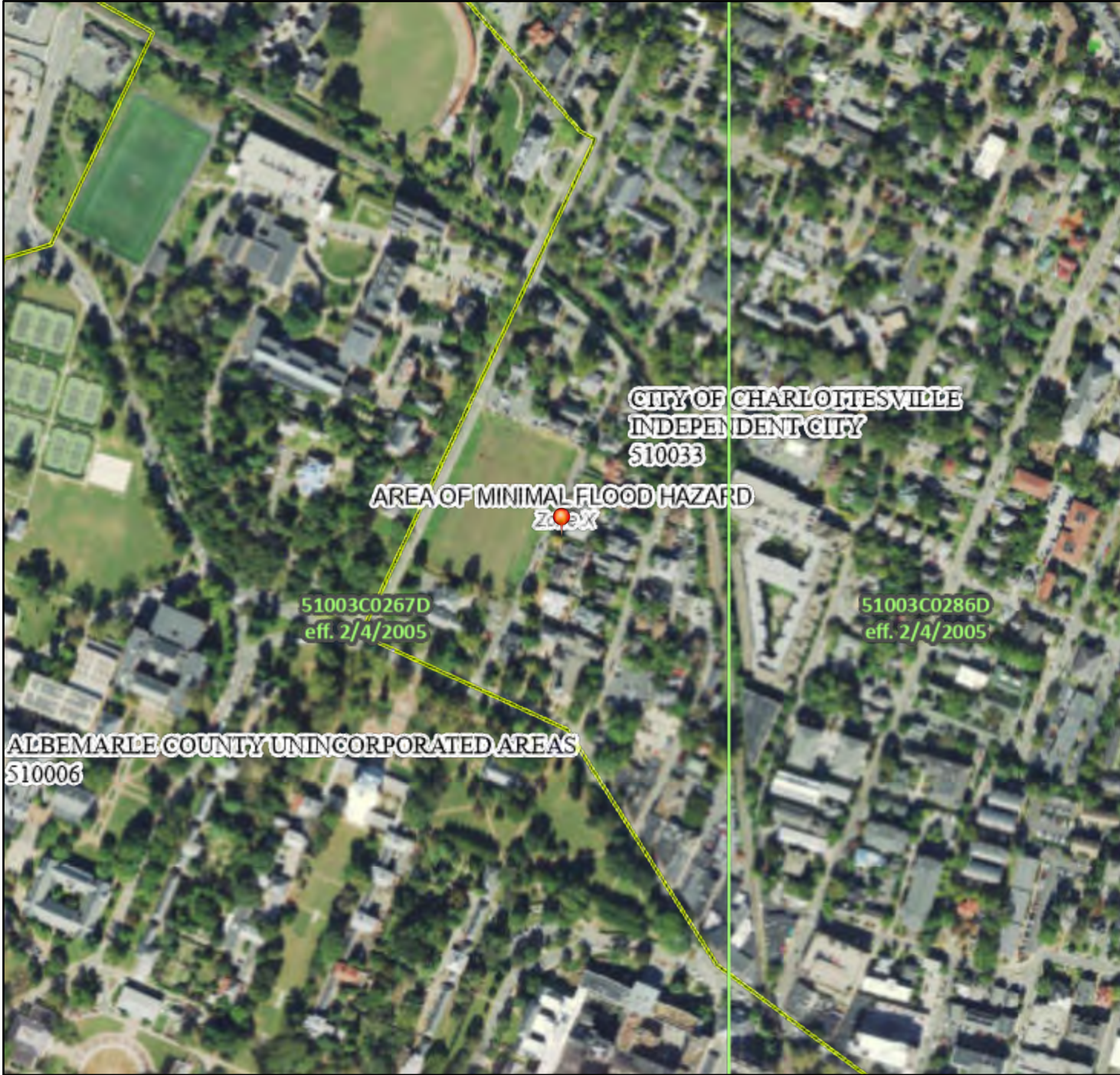
0 0.5 1 2 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, W/U Facilities, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS, USDA

National Flood Hazard Layer FIRMMette



78°30'24"W 38°2'29"N



Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



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

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

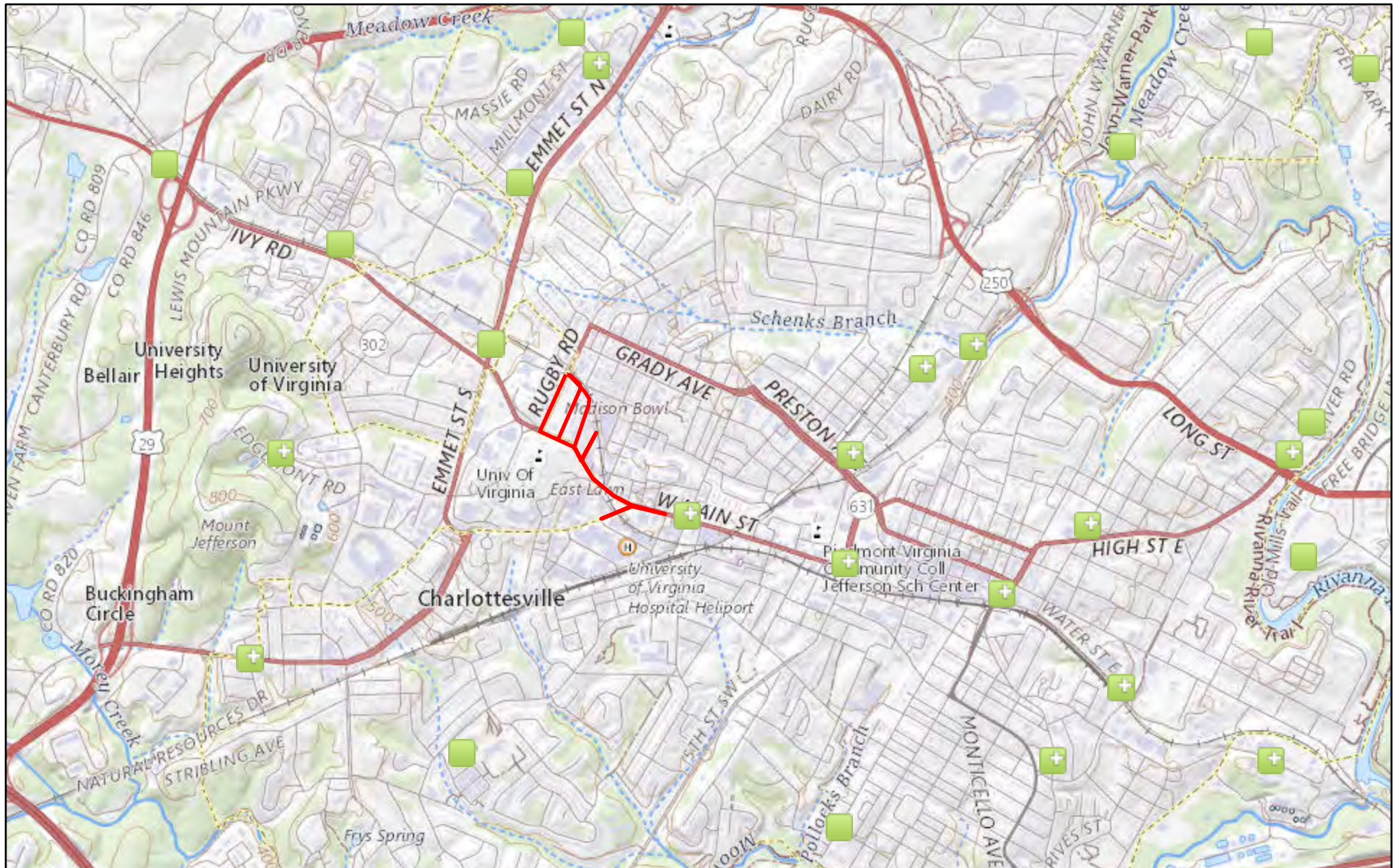
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/2/2023 at 4:28 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Appendix D

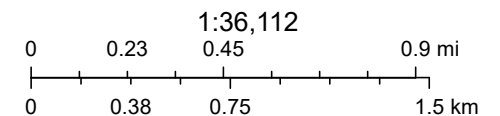
Hazardous Materials

Hazardous Materials/Waste Sites



October 3, 2023

- + Hazardous Waste (RCRAInfo)
- Hazardous Waste (RCRAInfo)
- City of Charlottesville



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography

Appendix E

Soils Report



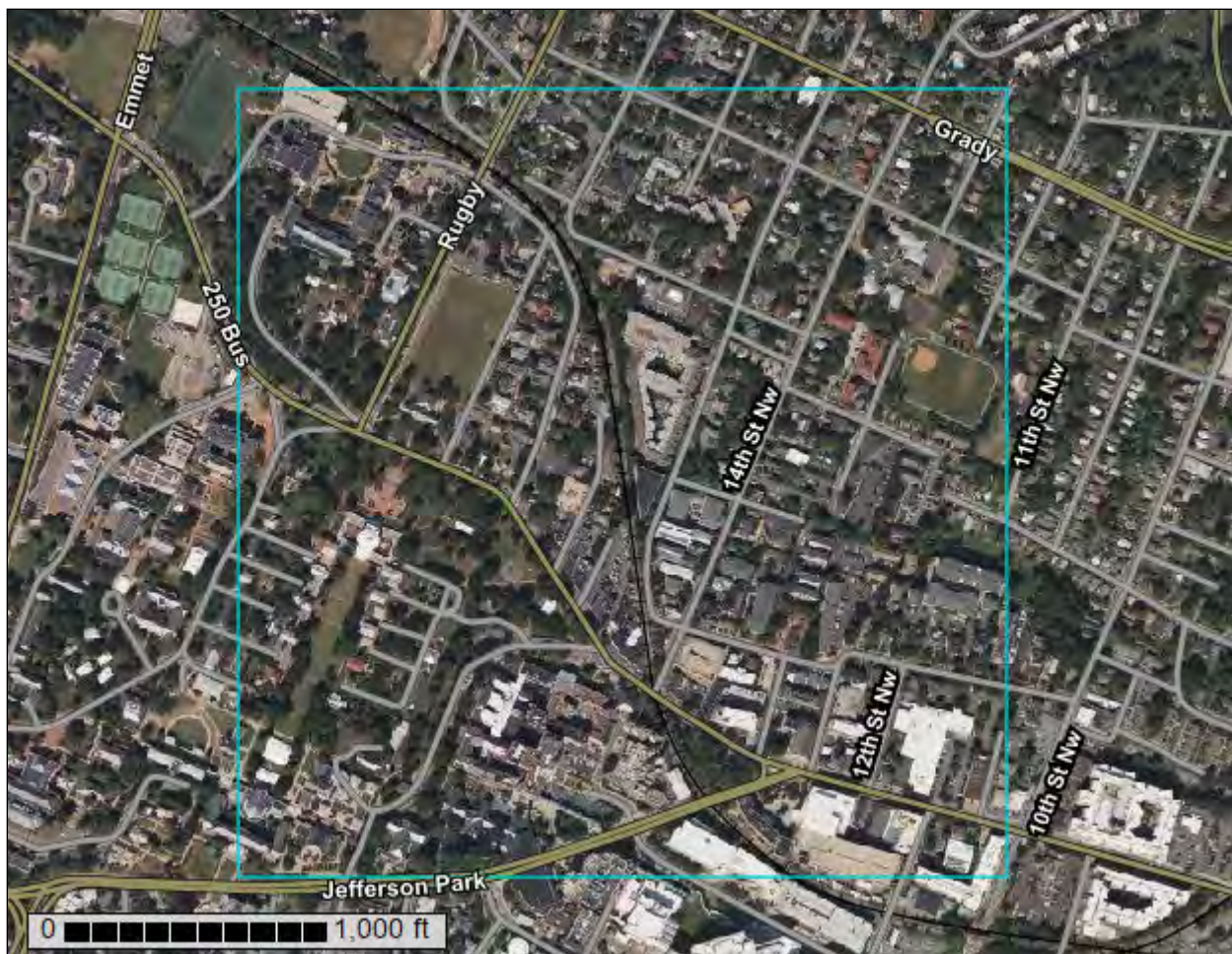
United States
Department of
Agriculture

NRCS

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 Charlottesville City, Virginia



October 3, 2023

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.

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Charlottesville City, Virginia.....	13
88—Udorthents, loamy, 2 to 25 percent slopes.....	13
91—Urban land.....	13
119C—Cullen - Urban land complex, 7 to 15 percent slopes.....	14
121B—Culpeper - Urban land complex, 2 to 7 percent slopes.....	16
121C—Culpeper - Urban land complex, 7 to 15 percent slopes.....	17
121D—Culpeper - Urban land complex, 15 to 25 percent slopes.....	19
171E—Rabun - Urban land complex, 25 to 45 percent slopes.....	20
References	22

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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.

Custom Soil Resource Report Soil Map




Custom Soil Resource Report


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts 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.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Charlottesville City, Virginia
Survey Area Data: Version 10, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 8, 2020—Sep 23, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
88	Udorthents, loamy, 2 to 25 percent slopes	13.5	6.7%
91	Urban land	105.9	52.7%
119C	Cullen - Urban land complex, 7 to 15 percent slopes	17.7	8.8%
121B	Culpeper - Urban land complex, 2 to 7 percent slopes	3.1	1.5%
121C	Culpeper - Urban land complex, 7 to 15 percent slopes	34.4	17.1%
121D	Culpeper - Urban land complex, 15 to 25 percent slopes	20.7	10.3%
171E	Rabun - Urban land complex, 25 to 45 percent slopes	5.8	2.9%
Totals for Area of Interest		201.0	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.

Charlottesville City, Virginia

88—Udorthents, loamy, 2 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2xxz3

Elevation: 360 to 1,540 feet

Mean annual precipitation: 25 to 65 inches

Mean annual air temperature: 54 to 59 degrees F

Frost-free period: 195 to 231 days

Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 85 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform: Interfluves

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from granite and gneiss

Properties and qualities

Slope: 2 to 25 percent

Depth to restrictive feature: More than 80 inches

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Minor Components

Hatboro, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

91—Urban land

Map Unit Setting

National map unit symbol: kbg5

Mean annual precipitation: 25 to 65 inches

Mean annual air temperature: 54 to 59 degrees F

Frost-free period: 195 to 231 days

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Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Interfluves

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from granite and gneiss

Typical profile

H1 - 0 to 6 inches: variable

H2 - 6 to 79 inches: variable

Properties and qualities

Slope: 0 to 25 percent

Depth to restrictive feature: 10 inches to densic material

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 13.04 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

119C—Cullen - Urban land complex, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qjgp

Elevation: 440 to 570 feet

Mean annual precipitation: 25 to 65 inches

Mean annual air temperature: 54 to 59 degrees F

Frost-free period: 195 to 231 days

Farmland classification: Not prime farmland

Map Unit Composition

Cullen and similar soils: 50 percent

Urban land: 40 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cullen

Setting

Landform: Hillslopes

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

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Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from acid and basic igneous rock

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 60 inches: clay

H3 - 60 to 67 inches: clay

H4 - 67 to 79 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent

Depth to restrictive feature: 60 to 120 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 high (0.00 to 0.20 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 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F148XY024PA - Moist, Piedmont - felsic, Upland, Mixed Oak -

Hardwood - Conifer Forest

Hydric soil rating: No

Description of Urban Land

Setting

Landform: Interfluves

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from granite and gneiss

Typical profile

H1 - 0 to 6 inches: variable

H2 - 6 to 79 inches: variable

Properties and qualities

Slope: 0 to 25 percent

Depth to restrictive feature: 10 inches to densic material

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 13.04 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

121B—Culpeper - Urban land complex, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: 2qjgq

Elevation: 430 to 620 feet

Mean annual precipitation: 25 to 65 inches

Mean annual air temperature: 54 to 59 degrees F

Frost-free period: 195 to 231 days

Farmland classification: Not prime farmland

Map Unit Composition

Culpeper and similar soils: 50 percent

Urban land: 40 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Culpeper

Setting

Landform: Hillslopes

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from meta-arkosic sandstone and quartzite

Typical profile

H1 - 0 to 8 inches: fine sandy loam

H2 - 8 to 30 inches: clay

H3 - 30 to 37 inches: sandy clay loam

H4 - 37 to 45 inches: fine sandy loam

H5 - 45 to 50 inches: bedrock

H6 - 50 to 79 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent

Depth to restrictive feature: 40 to 79 inches to lithic bedrock; 40 to 79 inches to paralithic bedrock

Drainage class: Well drained

Runoff class: Medium

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 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

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Ecological site: F148XY024PA - Moist, Piedmont - felsic, Upland, Mixed Oak -
Hardwood - Conifer Forest
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from granite and gneiss

Typical profile

H1 - 0 to 6 inches: variable
H2 - 6 to 79 inches: variable

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: 10 inches to densic material
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 13.04 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

121C—Culpeper - Urban land complex, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qjgr
Elevation: 360 to 720 feet
Mean annual precipitation: 25 to 65 inches
Mean annual air temperature: 54 to 59 degrees F
Frost-free period: 195 to 231 days
Farmland classification: Not prime farmland

Map Unit Composition

Culpeper and similar soils: 50 percent
Urban land: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Culpeper

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve

Custom Soil Resource Report

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from meta-arkosic sandstone and quartzite

Typical profile

H1 - 0 to 8 inches: fine sandy loam

H2 - 8 to 30 inches: clay

H3 - 30 to 37 inches: sandy clay loam

H4 - 37 to 45 inches: fine sandy loam

H5 - 45 to 50 inches: bedrock

H6 - 50 to 79 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent

Depth to restrictive feature: 40 to 79 inches to paralithic bedrock; 40 to 79 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Medium

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 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F148XY024PA - Moist, Piedmont - felsic, Upland, Mixed Oak - Hardwood - Conifer Forest

Hydric soil rating: No

Description of Urban Land

Setting

Landform: Interfluves

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from granite and gneiss

Typical profile

H1 - 0 to 6 inches: variable

H2 - 6 to 79 inches: variable

Properties and qualities

Slope: 0 to 25 percent

Depth to restrictive feature: 10 inches to densic material

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 13.04 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

121D—Culpeper - Urban land complex, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2qjh2

Elevation: 340 to 590 feet

Mean annual precipitation: 25 to 65 inches

Mean annual air temperature: 54 to 59 degrees F

Frost-free period: 195 to 231 days

Farmland classification: Not prime farmland

Map Unit Composition

Culpeper and similar soils: 50 percent

Urban land: 40 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Culpeper

Setting

Landform: Hillslopes

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from meta-arkosic sandstone and quartzite

Typical profile

H1 - 0 to 8 inches: fine sandy loam

H2 - 8 to 30 inches: clay

H3 - 30 to 37 inches: sandy clay loam

H4 - 37 to 45 inches: fine sandy loam

H5 - 45 to 50 inches: bedrock

H6 - 50 to 79 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 40 to 79 inches to paralithic bedrock; 40 to 79 inches to lithic bedrock

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 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

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Ecological site: F148XY024PA - Moist, Piedmont - felsic, Upland, Mixed Oak -
Hardwood - Conifer Forest
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from granite and gneiss

Typical profile

H1 - 0 to 6 inches: variable
H2 - 6 to 79 inches: variable

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: 10 inches to densic material
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 13.04 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

171E—Rabun - Urban land complex, 25 to 45 percent slopes

Map Unit Setting

National map unit symbol: 2qjh7
Elevation: 340 to 570 feet
Mean annual precipitation: 25 to 65 inches
Mean annual air temperature: 54 to 59 degrees F
Frost-free period: 195 to 231 days
Farmland classification: Not prime farmland

Map Unit Composition

Rabun and similar soils: 50 percent
Urban land: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rabun

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope

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Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from greenstone

Typical profile

H1 - 0 to 6 inches: clay loam
H2 - 6 to 48 inches: clay
H3 - 48 to 79 inches: silty clay loam

Properties and qualities

Slope: 25 to 45 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 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from granite and gneiss

Typical profile

H1 - 0 to 6 inches: variable
H2 - 6 to 79 inches: variable

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: 10 inches to densic material
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 13.04 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

References

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix F

Biological Resources



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032



In Reply Refer To:
Project Code: 2024-0000831
Project Name: City of Charlottesville, VA

October 03, 2023

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

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 the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<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 <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

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 <https://www.fws.gov/partner/council-conservation-migratory-birds>.

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 Project 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
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

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:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

PROJECT SUMMARY

Project Code: 2024-0000831

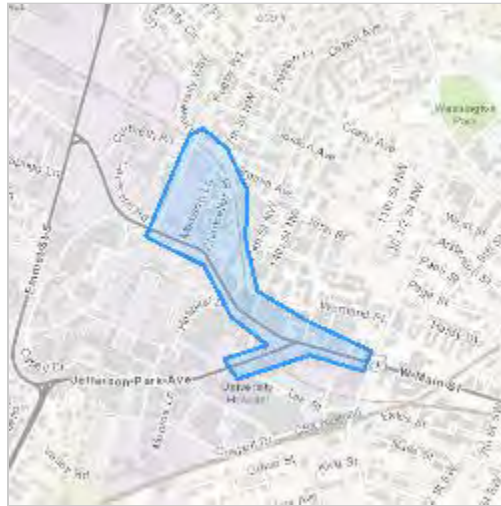
Project Name: City of Charlottesville, VA

Project Type: Distribution Line - Maintenance/Modification - Below Ground

Project Description: pipeline replacement

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.03609265,-78.50114772284402,14z>



Counties: Albemarle and Charlottesville counties, Virginia

ENDANGERED SPECIES ACT SPECIES

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

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

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

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

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

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

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.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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

There are bald and/or golden eagles in your project area.

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

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

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

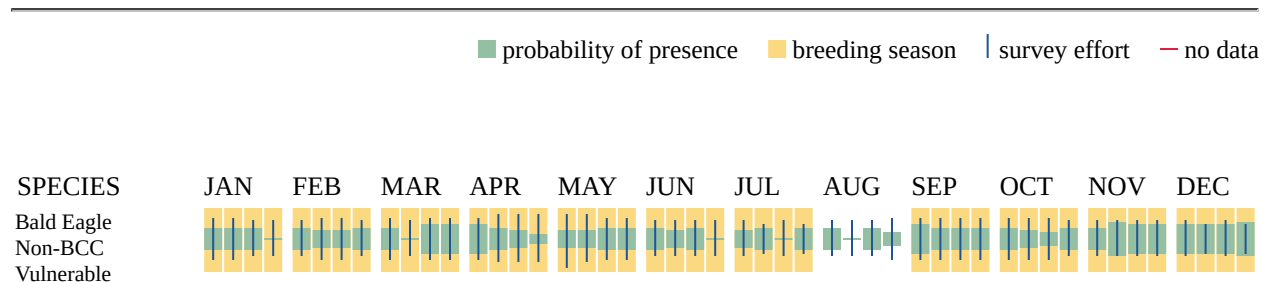
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

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



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

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

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
-

3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Cerulean Warbler <i>Dendroica cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 28 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

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

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

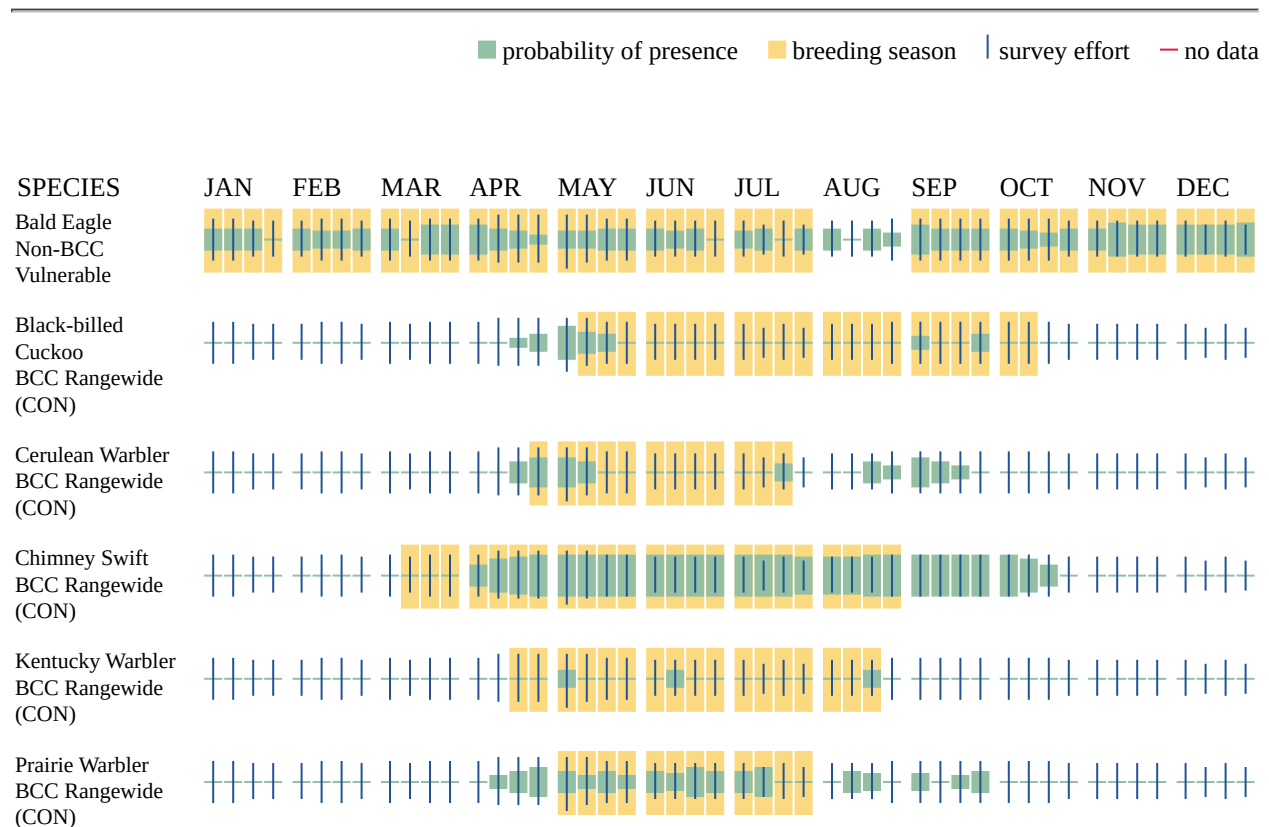
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

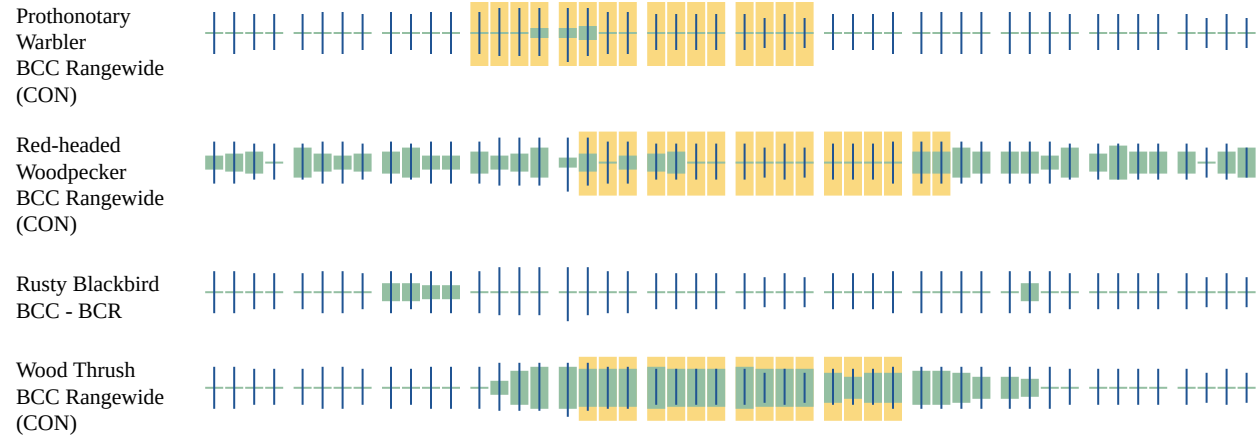
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

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





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

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



Virginia Department of Wildlife Resources

10/3/2023 1:46:09 PM

Fish and Wildlife Information Service

VaFWIS Search Report Compiled on 10/3/2023, 1:46:09 PM

[Help](#)

Known or likely to occur within a **3 mile radius around point a point 1.6 miles from Charlottesville and Albemarle County Historic District Park Charlottesville city (at 38,02,36.9 -78,30,18.8)**
in **003 Albemarle County, 540 Charlottesville City, VA**

[View Map of Site Location](#)

491 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 24) (24 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name
050022	FEST	Ia	Bat, northern long-eared	Myotis septentrionalis
060017	FESE	Ia	Spinymussel, James	Parvaspina collina
060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata
050020	SE	Ia	Bat, little brown	Myotis lucifugus
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus
060006	SE	Ib	Floater, brook	Alasmidonta varicosa
040096	ST	Ia	Falcon, peregrine	Falco peregrinus
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot
060081	ST	IIa	Floater, green	Lasmigona subviridis
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus
030063	CC	IIIa	Turtle, spotted	Clemmys guttata
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus
040092		Ia	Eagle, golden	Aquila chrysaetos
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera
100248		Ia	Fritillary, regal	Speyeria idalia idalia
040052		IIa	Duck, American black	Anas rubripes
040320		IIa	Warbler, cerulean	Setophaga cerulea
040140		IIa	Woodcock, American	Scolopax minor
040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus
040105		IIb	Rail, king	Rallus elegans
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii

To view **All 491 species** [View 491](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed;
FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need;

II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;

III=VA Wildlife Action Plan - Tier III - High Conservation Need;

IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.;

b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;

c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Anadromous Fish Use Streams (1 records)

[View Map of All
Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
P133	Rivanna river	Potential	0			Yes

Impediments to Fish Passage (1 records)

[View Map of All
Fish Impediments](#)

ID	Name	River	View Map
911	BIRDWOOD DAM	TR-MOREY CREEK	Yes

Threatened and Endangered Waters (7 Reaches)

[View Map of All
Threatened and Endangered Waters](#)

Stream Name	T&E Waters Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Ivy Creek (0100815)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (0102074)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (098116)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (098189)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (099216)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (099272)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (099688)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (2 Reaches)

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Ivy Creek (20802041)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (20802042)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Ivy Creek (20802042)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (6 records)

[View Map of All Query Results](#)
[Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE [*]	Highest Tier ^{**}	
43133	Charlottesville East, CW	66		III	Yes
43131	Charlottesville East, NW	72		III	Yes
43135	Charlottesville East, SW	2		IV	Yes
42134	Charlottesville West, CE	70		III	Yes

42132	Charlottesville West, NE	4		III	Yes
42136	Charlottesville West, SE	73		III	Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
003	Albemarle	428	FESE	I
540	Charlottesville City	359	FESE	I

USGS 7.5' Quadrangles:

Charlottesville West
Charlottesville East

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
JR07	Ivy Creek-Little Ivy Creek	62	FESE	I
JR08	South Fork Rivanna River	64	FESE	I
JR14	Rivanna River-Meadow Creek	59	FESE	I
JR15	Moores Creek	65	FESE	I

Compiled on 10/3/2023, 1:46:09 PM V1530038.0 report=V searchType= R dist= 4828.032 poi= 38,02,36.9 -78,30,18.8

Appendix G

Cultural Resources



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

1200 New Jersey Avenue, SE
Washington, DC 20590

December 29, 2023

Deborah Dotson
President
Delaware Nation
31064 State Highway 281, Building 100
Anadarko, OK – 73005

Section 106 Consultation: PHMSA Pipeline Replacement Project in the City of Charlottesville
Grant Recipient: City of Charlottesville
Project Location: City of Charlottesville, Albemarle County, Virginia

Dear President Dotson:

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 City of Charlottesville (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 to notify your Tribe/Nation of PHMSA's intention to make a finding of No Adverse Effect to Historic Properties. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking will take place along West Main Street and University Avenue within the City of Charlottesville in Virginia. The Undertaking will replace total of 13,000 linear feet of cast iron pipeline with high-density polyethylene (HDPE) and polyethylene (PE) pipes by means of cut and cover (trenching) and the existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) will minimize ground disturbance. Additionally, work will include the removal of 20 gas meters from the interior of various buildings to the outside of buildings for safer access. Most of the work will take place within the City of Charlottesville's existing, paved, right-of-way (ROW) and would not require new ROW or easements. Work will also occur within the properties where gas meters are being moved, which are not within the ROW. It is anticipated that ground disturbance will be limited to the roadway/sidewalk and does not include grassy areas.

All gas main replacements proposed are within highly to moderately developed urban areas. These areas have a mix of commercial and residential use. The replacement pipeline will be installed on either side of the existing pipeline approximately in the center of the roadway. The entire roadway has been previously disturbed by pipeline work and several utilities. The expected depth of excavation is 36 inches (in.) below grade.

The staging areas for the project have not been identified. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

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 primarily to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance, and the properties where gas meters are being moved. The APE extends to the depth of proposed ground disturbance of up to 36 in. below grade. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction. The existing ROW includes the roadway, parking lanes, sidewalk, light poles, overhead power lines, overhead streetlights, fire hydrants, bike lanes, bus stops, benches, signs, trees, and bushes. 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 Virginia Cultural Resources Information System (VCRIS) 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 listing in the NRHP.

Historic Architecture

Six previously documented historic properties are located within the APE (Table 1). The location of historic properties are shown on the APE map in **Attachment A**.

Table 1. Above-ground historic properties within the APE

Historic Property Name	NRHP Eligibility Status
West Main Street Historic District	Listed
Rugby Road-University Corner Historic District	Listed
Starr Hill Historic District	Unknown
Sears Roebuck & Company (Stacey Hall)	Unknown
Cushman Building	Unknown
Howard Johnson Motel	Unknown

The West Main Street Historic District is associated with a historic route between the city's downtown and the University of Virginia. It contains a collection of historically contributing buildings constructed between 1820 and 1970, and it illustrates the growth of commercial, residential, and travel-related structures like boarding houses and hotels, as well as those associated with mixed-use retail and service activities. The West Main Street Historic District is significant under Criterion A for Ethnic Heritage: African American, Transportation, and Commerce and under Criterion C for Architecture.

The Rugby Road-University Corner Historic District neighborhood contains academic, commercial, and residential buildings associated with the university during the period before World War II. Most buildings date to the period between 1890 and 1930 when the student population quadrupled. The era also produced the colorful strip of commercial buildings along University Avenue, known as “the Corner.” Together with its appealing tree-lined streets and park-like open spaces, the Rugby Road-University Corner Historic District comprises one of the most visually appealing university neighborhoods in the South and it is significant under Criterion C for Architecture.

Starr Hill Historic District, Sears Roebuck & Company (Stacey Hall), Cushman Building, Howard Johnson Motel are all located along the historic route between the city’s downtown and the University of Virginia. While no eligibility determinations were made when they were documented, they may be significant for their association with African American heritage in this area, Transportation, Commerce and/or for Architecture. PHMSA is treating these properties as eligible for listing in the NRHP for the purposes of consultation for this Undertaking.

Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, the identification effort for previously unidentified above-ground historic properties focused on identifying properties that could experience diminished integrity as a result of the Undertaking. A review of the APE found no additional above-ground resources that have the potential to be affected by the Undertaking.

Archeology

Virginia’s archeological site file database, VCRIS, was examined to identify the presence of previously recorded archeological sites and previously conducted archeological surveys within the APE. As a result, two previous surveys were identified as intersecting the APE, three previously recorded archeological sites were identified adjacent to the APE and two previously recorded archeological sites were identified within the APE. In 1985, Hantman et al. conducted a systematic survey of proposed development locations in Charlottesville. In 1986, Cheek and Robinson conducted a road survey of 9th and 10th Streets for proposed alignment work. Site 44AB0461 is the University of Virginia Academical Village dating to the Antebellum Period and covers a large portion of the University of Virginia campus.

Table 2. Previously Conducted Archeological Surveys within the APE

Survey Report Title	Citation	Report Number
The Archaeology of Albemarle County: Results of a Systematic Survey of Proposed Development Areas in Albemarle County, Virginia	Hantman et al. 1985	AB-009
A Phase I Archaeological Resources Investigation of the Proposed 9th and 10th Streets Alignment, Charlottesville, Virginia	Cheek and Robinson 1986	AB-021

One archeological site (44AB0069) is a precontact site mapped within the proposed APE but the site record specifies that it is located within the railroad ROW within the eroding hillside. Historic topographic maps from 1892 show that the area around the railroad by Rugby Road and Chancellor Street has been somewhat graded and considerably developed. If intact, site 44AB0069 is likely buried beyond the limits of disturbance of the APE. Site 44AB0070, which is also mapped within the APE in VCRIS, is a precontact site for which deposits are likely also deeply buried below urban land or fill if present. The site record for site 44AB0070 shows that it was documented to the east of the roadway on the adjacent property and notes that portions of the site have been destroyed. Therefore, while mapped within the APE these sites will not be affected by the Undertaking. New pipelines will be installed on either side of the existing pipeline approximately in the center of the roadway, which has been previously disturbed by construction and thus

will avoid sites 44AB0305, 44AB0306, and 44AB0461; all of which are to the south of the APE where less construction activities are expected. Additionally, while it is possible that intact archeological deposits may exist in portions of the APE that were not previously disturbed by road construction and utility installation, all ground disturbing activities will take place in a densely populated and developed urban landscape and below existing paved surfaces. Project work is limited to the replacement of existing pipelines in areas that demonstrate a low probability for intact significant archaeological resources.

Table 3. Previously Recorded Archeological Sites within and adjacent to the APE

Archeological Site	Site Type	NRHP Eligibility	Proximity to APE
44AB0069	Precontact lithic scatter	Unknown	Within APE
44AB0070	Precontact lithic scatter	Unknown	Within APE
44AB0305	Historic dwelling and artifact scatter	Unknown	Adjacent to APE
44AB0306	Historic dwelling and artifact scatter	Unknown	Adjacent to APE
44AB0461	College/University	Potentially Eligible	Adjacent to APE

A half-mile search radius was also examined for previously recorded archeological sites and surveys. Within a half-mile of the APE, 43 archeological surveys have been conducted and 28 previously recorded archeological sites were identified. Of the 28 previously recorded sites within a half-mile of the APE, one site is listed in the NRHP. Site 44AB0526 is the Old Jefferson Graded Elementary School. The site is significant for its association with African American education in the City of Charlottesville and has the potential to yield significant archeological data associated with the site of the first African American school to stand on the property. The site is 190 feet (60 meters) from the eastern portion of the APE. Additionally, site 44AB0710 is recommended potentially eligible and site 44AB0525 is determined eligible. Site 44AB0710 is an Early National Period dwelling located 1,200 feet (350 meters) from the APE. Site 44AB0525 is the Foster Site historic dwelling site dating to the 18th century, and a cemetery dating to the Antebellum period. It is located 670 feet (200 meters) from the APE. All other sites identified within a half-mile of the APE are recommended not eligible for listing in the NRHP, or their eligibilities have not been evaluated.

A total of five known historic cemeteries were identified within a half-mile of the APE. The Ford Family Cemetery (44AB0484), the Foster Site Cemetery (44AB0525), the University of Virginia Cemetery Prehistoric Site (44AB0692), and the University of Virginia Enslaved Burial Ground (44AB0693) - were identified through VCRIS as recorded archeological sites. The Oakwood Cemetery and the Widderfield - Lee Cemetery were also identified through VCRIS as historic cemeteries eligible for listing in the NRHP. For clarification, site 44AB0692 is a historic period cemetery where precontact archeological resources were recovered. No known precontact burials exist at the site. No known cemeteries are located within the APE.

An examination of Web Soil Survey data within the APE reveals four soil classes including Udorthents, Cullen, Culpepper, and urban land soils (Table 4). 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 Cullen and Culpepper types. Typically slopes greater than 15 percent are not suitable for human occupation, and soil types within the APE vary from 0 to 25 percent slope. The APE is comprised mostly of urban land, which, in urban areas, may have impervious surfaces such as buildings and pavement and are largely part of a built environment. Proximity to major waterways generally indicates a suitable environment for both precontact and historic human activity. Topographic maps reveal that much of the APE is about 2 miles west of the Rivanna River, which flows to the James River in Fluvanna County.

Table 4. Soil Types within the APE

Map Unit Name	Drainage Class	Slope	Percent of APE
Udorthents, loamy	N/A	2-25%	3%
Urban land	N/A	0-25%	77%
Cullen - Urban land complex	Well drained	7-15%	5%
Culpeper - Urban land complex	Well drained	7-15%	13%
Culpeper - Urban land complex	Well drained	15-25%	2%

Historic topographic maps from 1892, 1935 and 1973 and historic aerial photographs from 1957 and 1968 were examined for archeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archeological deposits associated with the occupation of these structures. The APE is comprised of the historic town center of Charlottesville and its immediate surroundings. The earliest available historic topographic map from 1892 shows the APE located in the centrally developed portion of Charlottesville, which by this time had numerous well-established structures and institutions. The University of Virginia and its observatory is shown in the western portion of the project area and dense clusters of buildings stretching along the length of the current APE to the east. The existing railroad that bisects the APE is shown on the 1892 map and all subsequent topographic maps and aerals. The 1935 topographic map shows the development of new roads and structures sprawling out from the city center. The 1973 topographic map reveals more detail than previous maps, showing several important municipal buildings such as City Hall and the County Courthouse a half-mile east of the APE and numerous University of Virginia-affiliated buildings in the western portion. Several schools and churches are located within a half-mile of the APE, and some align directly with the APE. Aerial photographs from 1957 and 1968 align with the historic topographic maps reviewed; the APE contains numerous clusters of buildings in a dense urban area.

Background research revealed 33 archeological sites and 45 surveys within a half-mile of the APE, and five archeological sites and two archeological surveys within or adjacent to the APE. While most of the soils are urban land types, an examination the APE indicates suitable conditions for precontact and historic period human habitation, as evident by the frequency of archeological sites noted near the APE. Historic topographic maps and aerals indicate that historic archeological deposits may be present in parts of the APE. However, project work is limited to the replacement of existing pipelines in areas that demonstrate a low probability for intact significant archaeological resources.

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are six historic properties as defined in 36 CFR 800.16(l) within the APE, including those being treated as eligible for the purposes of consultation: West Main Street Historic District, Rugby Road-University Corner Historic District, Starr Hill Historic District, Sears Roebuck & Company (Stacey Hall), Cushman Building, Howard Johnson Motel. While sites 44AB0069 and 44AB0070 are mapped within the APE, they are likely located below or outside the APE, which only extends 36 in. below grade, and will not be affected by the work, which is confined to previously disturbed paved ROW.

While these six historic properties are located in the APE, the Undertaking will not alter any of the characteristics or contributing features of these historic properties that qualify them for inclusion in the NRHP in a manner that would diminish their integrity. Gas meter relocations will take place at two contributing properties within the West Main Street Historic District (123 4th Street NW and 325 Main Street W), as well as at the Sears Roebuck & Company (Stacey Hall), Cushman Building, and Howard

Johnson Motel. Gas meter relocations will consist of moving an existing gas meter from the interior of the building to the exterior for safer access, which is a minimal change and will not result in any physical alterations to the buildings. Work within the Rugby Road-University Corner Historic District, Starr Hill Historic District, and the rest of the West Main Street Historic District will be limited to the below-ground replacement of pipelines within the existing ROW. No character-defining materials or features of any of these six historic properties will be removed or altered as a result of the Undertaking. The Undertaking will not result in lasting physical, visual, or audible effects to NRHP-listed or eligible historic properties. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of any of the historic properties. Therefore, the Undertaking does not have the potential to adversely affect any of the identified historic properties. While the exact staging areas for the Undertaking are currently unknown, staging should be confined to paved areas; if staging cannot be confined to paved areas, geotextile fabric or other similar protective measures (such as pressure distributing mats) must be laid in any affected unpaved area to minimize ground disturbance, prevent soil compaction, and protect potential archaeological features and artifacts.

Based on this assessment, in accordance with 36 CFR Part 800.5, PHMSA has determined the Undertaking will have No Adverse Effect on historic properties.

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 Adverse Effect to Historic Properties 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 PHMSASection106@dot.gov or 857-320-1359.

Sincerely,



Matt Fuller
Senior Environmental Protection Specialist

MF/kg

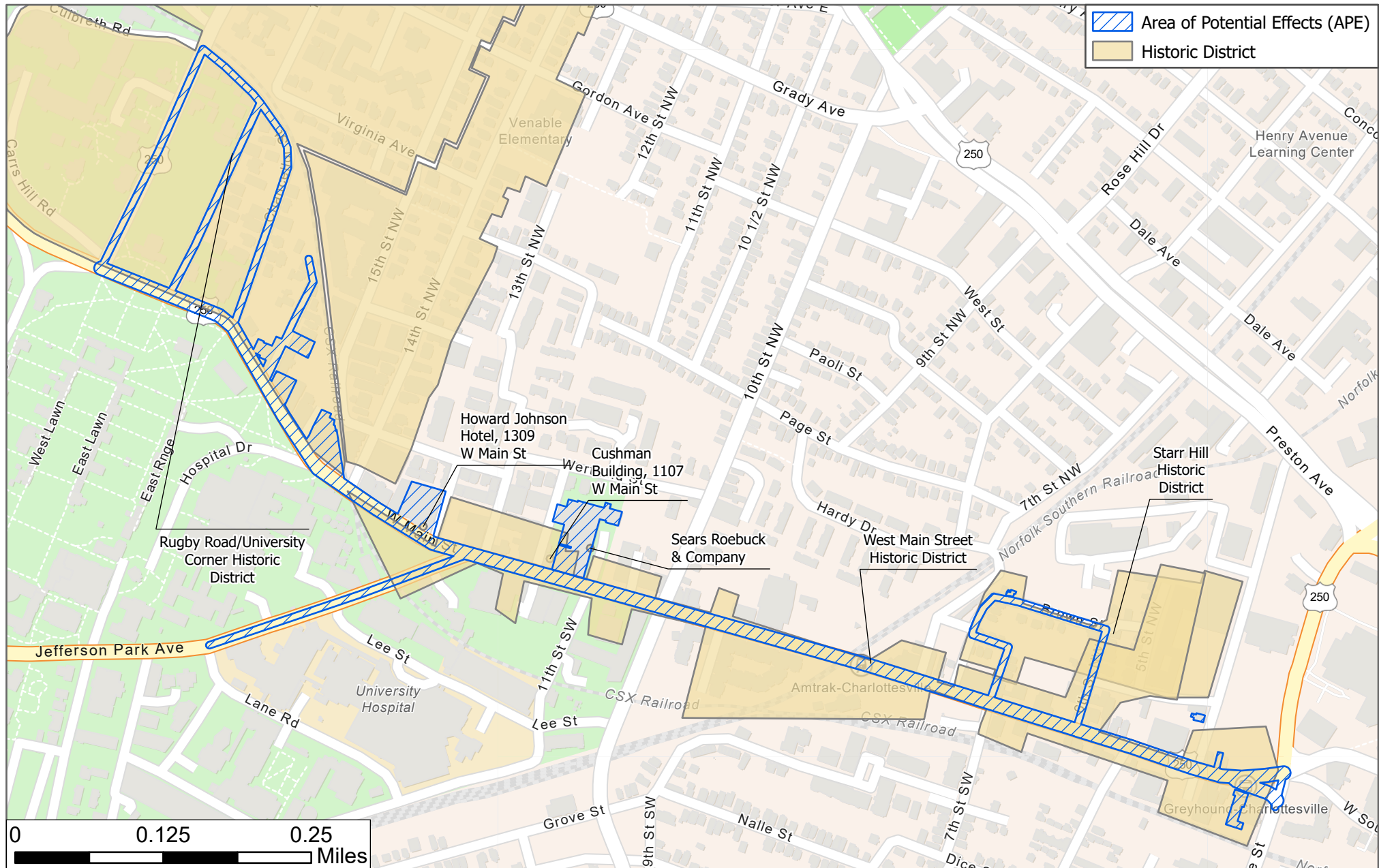
cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center
Renee Taylor, PHMSA Grant Specialist
Katelyn Lucas, Tribal Historic Preservation Officer

Enclosures:

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

ATTACHMENT A
Project Location and APE Maps

Area of Potential Effects Map



Name: Charlottesville Virginia Gas Line Replacement

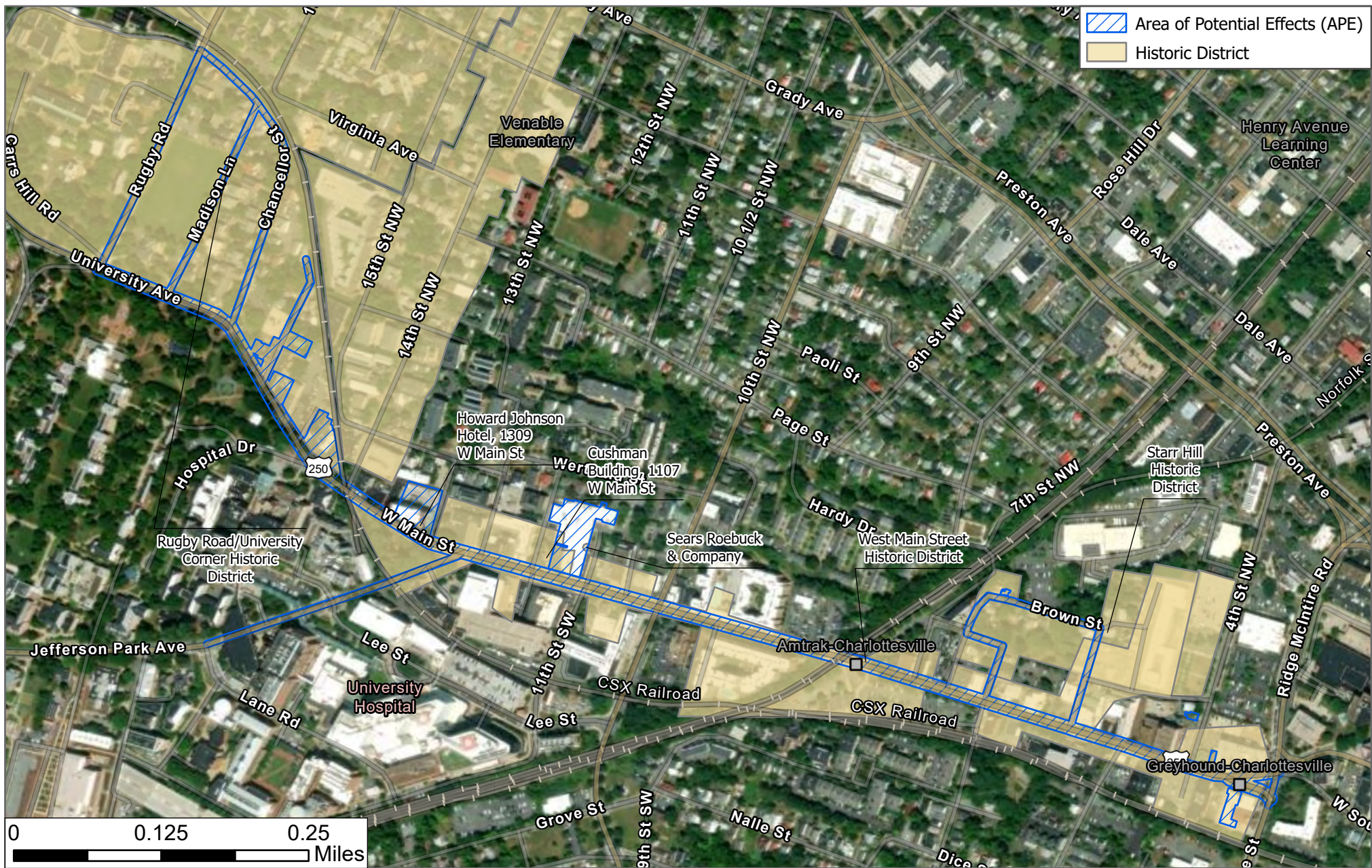
Scale: 7,000

Total Acreage: 16.67

USGS Basemap: Charlottesville East, Charlottesville West
Charlottesville, VA, Albemarle County

Service Layer Credits: Esri Community Maps Contributors, WVU Facilities, City of Charlottesville, County of Albemarle, VGIN, West Virginia GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA

Area of Potential Effects Map



Scale: 7,000

Total Acreage: 16.67

USGS Basemap: Charlottesville East, Charlottesville West

Charlottesville, VA, Albemarle County

Service Layer Credits: Esri Community Maps Contributors, WVU Facilities, City of Charlottesville, County of Albemarle, VGIN, West Virginia GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar



ATTACHMENT B
Project Area Photographs



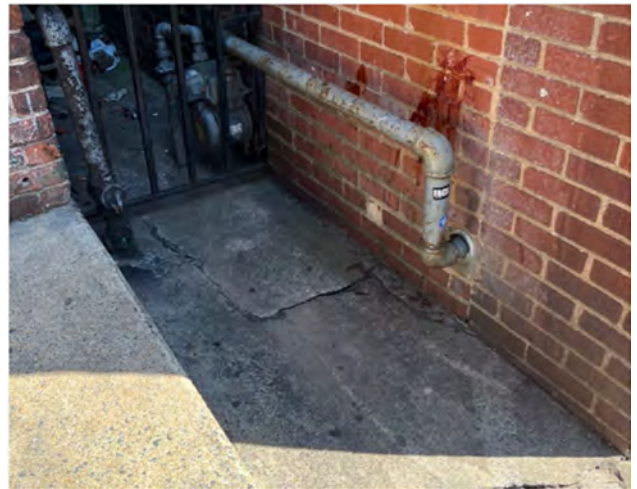
Chancellor Street ROW



Cast iron pipe to the left of the yellow paint to the west of 324 West Main Street. Polyethylene pipe is to the east. Both will be replaced.



Chancellor Street ROW



Example Gas Meter



Chancellor Street ROW looking east



Example of waterlines on south side of West Main Street



Gas pipeline is under fractured area of Chancellor Street looking south



Gas meter at Minor Court Lane viewed at West Main Street



Looking east on West Main Street at the bridge crossing on the railroad track



Madison Lane viewed from West Main Street



Start of replacement pipe from Rugby Road at Chancellor Street to the right of the stop sign



ROW at Elliewood Avenue viewed from West Main Street



Telephone duct bank so underground duct bank runs East and West.



View from Chancellor Street to a gas meter



West Main Street ROW in University of Virginia area looking north



West Main Street ROW



West Main Street ROW at crosswalk



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

1200 New Jersey Avenue, SE
Washington, DC 20590

December 29, 2023

Roger Kirchen
Review and Compliance Division Manager
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Section 106 Consultation: PHMSA Pipeline Replacement Project in the City of Charlottesville
Grant Recipient: City of Charlottesville
Project Location: City of Charlottesville, Albemarle County, Virginia

Dear Roger Kirchen:

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 City of Charlottesville (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 will take place along West Main Street and University Avenue within the City of Charlottesville in Virginia. The Undertaking will replace a total of 13,000 linear feet of cast iron pipeline with high-density polyethylene (HDPE) and polyethylene (PE) pipes by means of cut and cover (trenching) and the existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) will minimize ground disturbance. Additionally, work will include the removal of 20 gas meters from the interior of various buildings to the outside of buildings for safer access. Most of the work will take place within the City of Charlottesville's existing, paved, right-of-way (ROW) and would not require new ROW or easements. Work will also occur within the properties where gas meters are being moved, which are not within the ROW. It is anticipated that ground disturbance will be limited to the roadway/sidewalk and does not include grassy areas.

All gas main replacements proposed are within highly to moderately developed urban areas. These areas have a mix of commercial and residential use. The replacement pipeline will be installed on either side of the existing pipeline approximately in the center of the roadway. The entire roadway has been previously disturbed by pipeline work and several utilities. The expected depth of excavation is 36 inches (in.) below grade.

The staging areas for the project have not been identified. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

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 primarily to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance, and the properties where gas meters are being moved. The APE extends to the depth of proposed ground disturbance of up to 36 in. below grade. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction. The existing ROW includes the roadway, parking lanes, sidewalk, light poles, overhead power lines, overhead streetlights, fire hydrants, bike lanes, bus stops, benches, signs, trees, and bushes. 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 Virginia Cultural Resources Information System (VCRIS) 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 listing in the NRHP.

Historic Architecture

Six previously documented historic properties are located within the APE (Table 1). The location of historic properties are shown on the APE map in **Attachment A**.

Table 1. Above-ground historic properties within the APE

Historic Property Name	NRHP Eligibility Status
West Main Street Historic District	Listed
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Cushman Building	Unknown
Howard Johnson Motel	Unknown

The West Main Street Historic District is associated with a historic route between the city's downtown and the University of Virginia. It contains a collection of historically contributing buildings constructed between 1820 and 1970, and it illustrates the growth of commercial, residential, and travel-related structures like boarding houses and hotels, as well as those associated with mixed-use retail and service activities. The West Main Street Historic District is significant under Criterion A for Ethnic Heritage: African American, Transportation, and Commerce and under Criterion C for Architecture.

The Rugby Road-University Corner Historic District neighborhood contains academic, commercial, and residential buildings associated with the university during the period before World War II. Most buildings date to the period between 1890 and 1930 when the student population quadrupled. The era also produced

the colorful strip of commercial buildings along University Avenue, known as “the Corner.” Together with its appealing tree-lined streets and park-like open spaces, the Rugby Road-University Corner Historic District comprises one of the most visually appealing university neighborhoods in the South and it is significant under Criterion C for Architecture.

Starr Hill Historic District, Sears Roebuck & Company (Stacey Hall), Cushman Building, Howard Johnson Motel are all located along the historic route between the city’s downtown and the University of Virginia. While no eligibility determinations were made when they were documented, they may be significant for their association with African American heritage in this area, Transportation, Commerce and/or for Architecture. PHMSA is treating these properties as eligible for listing in the NRHP for the purposes of consultation for this Undertaking.

Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, the identification effort for previously unidentified above-ground historic properties focused on identifying properties that could experience diminished integrity as a result of the Undertaking. A review of the APE found no additional above-ground resources that have the potential to be affected by the Undertaking.

Archeology

Virginia’s archeological site file database, VCRIS, was examined to identify the presence of previously recorded archeological sites and previously conducted archeological surveys within the APE. As a result, two previous surveys were identified as intersecting the APE, three previously recorded archeological sites were identified adjacent to the APE and two previously recorded archeological sites were identified within the APE. In 1985, Hantman et al. conducted a systematic survey of proposed development locations in Charlottesville. In 1986, Cheek and Robinson conducted a road survey of 9th and 10th Streets for proposed alignment work. Site 44AB0461 is the University of Virginia Academical Village dating to the Antebellum Period and covers a large portion of the University of Virginia campus.

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A Phase I Archaeological Resources Investigation of the Proposed 9th and 10th Streets Alignment, Charlottesville, Virginia	Cheek and Robinson 1986	AB-021

One archeological site (44AB0069) is a precontact site mapped within the proposed APE but the site record specifies that it is located within the railroad ROW within the eroding hillside. Historic topographic maps from 1892 show that the area around the railroad by Rugby Road and Chancellor Street has been somewhat graded and considerably developed. If intact, site 44AB0069 is likely buried beyond the limits of disturbance of the APE. Site 44AB0070, which is also mapped within the APE in VCRIS, is a precontact site for which deposits are likely also deeply buried below urban land or fill if present. The site record for site 44AB0070 shows that it was documented to the east of the roadway on the adjacent property and notes that portions of the site have been destroyed. Therefore, while mapped within the APE these sites will not be affected by the Undertaking. New pipelines will be installed on either side of the existing pipeline approximately in the center of the roadway, which has been previously disturbed by construction and thus will avoid sites 44AB0305, 44AB0306, and 44AB0461; all of which are to the south of the APE where less construction activities are expected. Additionally, while it is possible that intact archeological deposits may exist in portions of the APE that were not previously disturbed by road construction and utility installation,

all ground disturbing activities will take place in a densely populated and developed urban landscape and below existing paved surfaces. Project work is limited to the replacement of existing pipelines in areas that demonstrate a low probability for intact significant archaeological resources.

Table 3. Previously Recorded Archeological Sites within and adjacent to the APE

Archeological Site	Site Type	NRHP Eligibility	Proximity to APE
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44AB0306	Historic dwelling and artifact scatter	Unknown	Adjacent to APE
44AB0461	College/University	Potentially Eligible	Adjacent to APE

A half-mile search radius was also examined for previously recorded archeological sites and surveys. Within a half-mile of the APE, 43 archeological surveys have been conducted and 28 previously recorded archeological sites were identified. Of the 28 previously recorded sites within a half-mile of the APE, one site is listed in the NRHP. Site 44AB0526 is the Old Jefferson Graded Elementary School. The site is significant for its association with African American education in the City of Charlottesville and has the potential to yield significant archeological data associated with the site of the first African American school to stand on the property. The site is 190 feet (60 meters) from the eastern portion of the APE. Additionally, site 44AB0710 is recommended potentially eligible and site 44AB0525 is determined eligible. Site 44AB0710 is an Early National Period dwelling located 1,200 feet (350 meters) from the APE. Site 44AB0525 is the Foster Site historic dwelling site dating to the 18th century, and a cemetery dating to the Antebellum period. It is located 670 feet (200 meters) from the APE. All other sites identified within a half-mile of the APE are recommended not eligible for listing in the NRHP, or their eligibilities have not been evaluated.

A total of five known historic cemeteries were identified within a half-mile of the APE. The Ford Family Cemetery (44AB0484), the Foster Site Cemetery (44AB0525), the University of Virginia Cemetery Prehistoric Site (44AB0692), and the University of Virginia Enslaved Burial Ground (44AB0693) - were identified through VCRIS as recorded archeological sites. The Oakwood Cemetery and the Widderfield - Lee Cemetery were also identified through VCRIS as historic cemeteries eligible for listing in the NRHP. For clarification, site 44AB0692 is a historic period cemetery where precontact archeological resources were recovered. No known precontact burials exist at the site. No known cemeteries are located within the APE.

An examination of Web Soil Survey data within the APE reveals four soil classes including Udorthents, Cullen, Culpepper, and urban land soils (Table 4). 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 Cullen and Culpepper types. Typically slopes greater than 15 percent are not suitable for human occupation, and soil types within the APE vary from 0 to 25 percent slope. The APE is comprised mostly of urban land, which, in urban areas, may have impervious surfaces such as buildings and pavement and are largely part of a built environment. Proximity to major waterways generally indicates a suitable environment for both precontact and historic human activity. Topographic maps reveal that much of the APE is about 2 miles west of the Rivanna River, which flows to the James River in Fluvanna County.

Table 4. Soil Types within the APE

Map Unit Name	Drainage Class	Slope	Percent of APE
Udorthents, loamy	N/A	2-25%	3%
Urban land	N/A	0-25%	77%
Cullen - Urban land complex	Well drained	7-15%	5%
Culpeper - Urban land complex	Well drained	7-15%	13%
Culpeper - Urban land complex	Well drained	15-25%	2%

Historic topographic maps from 1892, 1935 and 1973 and historic aerial photographs from 1957 and 1968 were examined for archeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archeological deposits associated with the occupation of these structures. The APE is comprised of the historic town center of Charlottesville and its immediate surroundings. The earliest available historic topographic map from 1892 shows the APE located in the centrally developed portion of Charlottesville, which by this time had numerous well-established structures and institutions. The University of Virginia and its observatory is shown in the western portion of the project area and dense clusters of buildings stretching along the length of the current APE to the east. The existing railroad that bisects the APE is shown on the 1892 map and all subsequent topographic maps and aeriels. The 1935 topographic map shows the development of new roads and structures sprawling out from the city center. The 1973 topographic map reveals more detail than previous maps, showing several important municipal buildings such as City Hall and the County Courthouse a half-mile east of the APE and numerous University of Virginia-affiliated buildings in the western portion. Several schools and churches are located within a half-mile of the APE, and some align directly with the APE. Aerial photographs from 1957 and 1968 align with the historic topographic maps reviewed; the APE contains numerous clusters of buildings in a dense urban area.

Background research revealed 33 archeological sites and 45 surveys within a half-mile of the APE, and five archeological sites and two archeological surveys within or adjacent to the APE. While most of the soils are urban land types, an examination the APE indicates suitable conditions for precontact and historic period human habitation, as evident by the frequency of archeological sites noted near the APE. Historic topographic maps and aeriels indicate that historic archeological deposits may be present in parts of the APE. However, project work is limited to the replacement of existing pipelines in areas that demonstrate a low probability for intact significant archaeological resources.

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are six historic properties as defined in 36 CFR 800.16(l) within the APE, including those being treated as eligible for the purposes of consultation: West Main Street Historic District, Rugby Road-University Corner Historic District, Starr Hill Historic District, Sears Roebuck & Company (Stacey Hall), Cushman Building, Howard Johnson Motel. While sites 44AB0069 and 44AB0070 are mapped within the APE, they are likely located below or outside the APE, which only extends 36 in. below grade, and will not be affected by the work, which is confined to previously disturbed paved ROW.

While these six historic properties are located in the APE, the Undertaking will not alter any of the characteristics or contributing features of these historic properties that qualify them for inclusion in the NRHP in a manner that would diminish their integrity. Gas meter relocations will take place at two contributing properties within the West Main Street Historic District (123 4th Street NW and 325 Main Street W), as well as at the Sears Roebuck & Company (Stacey Hall), Cushman Building, and Howard

Johnson Motel. Gas meter relocations will consist of moving an existing gas meter from the interior of the building to the exterior for safer access, which is a minimal change and will not result in any physical alterations to the buildings. Work within the Rugby Road-University Corner Historic District, Starr Hill Historic District, and the rest of the West Main Street Historic District will be limited to the below-ground replacement of pipelines within the existing ROW. No character-defining materials or features of any of these six historic properties will be removed or altered as a result of the Undertaking. The Undertaking will not result in lasting physical, visual, or audible effects to NRHP-listed or eligible historic properties. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of any of the historic properties. Therefore, the Undertaking does not have the potential to adversely affect any of the identified historic properties. While the exact staging areas for the Undertaking are currently unknown, staging should be confined to paved areas; if staging cannot be confined to paved areas, geotextile fabric or other similar protective measures (such as pressure distributing mats) must be laid in any affected unpaved area to minimize ground disturbance, prevent soil compaction, and protect potential archaeological features and artifacts.

Based on this assessment, in accordance with 36 CFR Part 800.5, PHMSA has determined the Undertaking will have No Adverse Effect on historic properties.

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 non-response 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
- Delaware Nation

Request for Section 106 Concurrence

Based on the information presented above, PHMSA has determined that the Undertaking will result in No Adverse Effect to properties that are either in, or eligible for inclusion in, the NRHP. 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 PHMSASection106@dot.gov or 857-320-1359.

Sincerely,



Matt Fuller
Senior Environmental Protection Specialist

MF/kg

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center
Renee Taylor, PHMSA Grant Specialist
Kathryn McNannay, City of Charlottesville
Albemarle Charlottesville Historical Society
City of Charlottesville Historic Resources Committee

Enclosures:

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



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

1200 New Jersey Avenue, SE
Washington, DC 20590

December 29, 2023

Gary Batton
Chief
Choctaw Nation
1802 Chukka Hina Dr.
Durant, Ok 74701

Section 106 Consultation: PHMSA Pipeline Replacement Project in the City of Charlottesville
Grant Recipient: City of Charlottesville
Project Location: City of Charlottesville, Albemarle County, Virginia

Dear Chief Batton:

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 City of Charlottesville (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 to notify your Tribe/Nation of PHMSA's intention to make a finding of No Adverse Effect to Historic Properties. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking will take place along West Main Street and University Avenue within the City of Charlottesville in Virginia. The Undertaking will replace total of 13,000 linear feet of cast iron pipeline with high-density polyethylene (HDPE) and polyethylene (PE) pipes by means of cut and cover (trenching) and the existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) will minimize ground disturbance. Additionally, work will include the removal of 20 gas meters from the interior of various buildings to the outside of buildings for safer access. Most of the work will take place within the City of Charlottesville's existing, paved, right-of-way (ROW) and would not require new ROW or easements. Work will also occur within the properties where gas meters are being moved, which are not within the ROW. It is anticipated that ground disturbance will be limited to the roadway/sidewalk and does not include grassy areas.

All gas main replacements proposed are within highly to moderately developed urban areas. These areas have a mix of commercial and residential use. The replacement pipeline will be installed on either side of the existing pipeline approximately in the center of the roadway. The entire roadway has been previously disturbed by pipeline work and several utilities. The expected depth of excavation is 36 inches (in.) below grade.

The staging areas for the project have not been identified. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

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 primarily to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance, and the properties where gas meters are being moved. The APE extends to the depth of proposed ground disturbance of up to 36 in. below grade. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction. The existing ROW includes the roadway, parking lanes, sidewalk, light poles, overhead power lines, overhead streetlights, fire hydrants, bike lanes, bus stops, benches, signs, trees, and bushes. 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 Virginia Cultural Resources Information System (VCRIS) 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 listing in the NRHP.

Historic Architecture

Six previously documented historic properties are located within the APE (Table 1). The location of historic properties are shown on the APE map in **Attachment A**.

Table 1. Above-ground historic properties within the APE

Historic Property Name	NRHP Eligibility Status
West Main Street Historic District	Listed
Rugby Road-University Corner Historic District	Listed
Starr Hill Historic District	Unknown
Sears Roebuck & Company (Stacey Hall)	Unknown
Cushman Building	Unknown
Howard Johnson Motel	Unknown

The West Main Street Historic District is associated with a historic route between the city's downtown and the University of Virginia. It contains a collection of historically contributing buildings constructed between 1820 and 1970, and it illustrates the growth of commercial, residential, and travel-related structures like boarding houses and hotels, as well as those associated with mixed-use retail and service activities. The West Main Street Historic District is significant under Criterion A for Ethnic Heritage: African American, Transportation, and Commerce and under Criterion C for Architecture.

The Rugby Road-University Corner Historic District neighborhood contains academic, commercial, and residential buildings associated with the university during the period before World War II. Most buildings date to the period between 1890 and 1930 when the student population quadrupled. The era also produced the colorful strip of commercial buildings along University Avenue, known as “the Corner.” Together with its appealing tree-lined streets and park-like open spaces, the Rugby Road-University Corner Historic District comprises one of the most visually appealing university neighborhoods in the South and it is significant under Criterion C for Architecture.

Starr Hill Historic District, Sears Roebuck & Company (Stacey Hall), Cushman Building, Howard Johnson Motel are all located along the historic route between the city’s downtown and the University of Virginia. While no eligibility determinations were made when they were documented, they may be significant for their association with African American heritage in this area, Transportation, Commerce and/or for Architecture. PHMSA is treating these properties as eligible for listing in the NRHP for the purposes of consultation for this Undertaking.

Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, the identification effort for previously unidentified above-ground historic properties focused on identifying properties that could experience diminished integrity as a result of the Undertaking. A review of the APE found no additional above-ground resources that have the potential to be affected by the Undertaking.

Archeology

Virginia’s archeological site file database, VCRIS, was examined to identify the presence of previously recorded archeological sites and previously conducted archeological surveys within the APE. As a result, two previous surveys were identified as intersecting the APE, three previously recorded archeological sites were identified adjacent to the APE and two previously recorded archeological sites were identified within the APE. In 1985, Hantman et al. conducted a systematic survey of proposed development locations in Charlottesville. In 1986, Cheek and Robinson conducted a road survey of 9th and 10th Streets for proposed alignment work. Site 44AB0461 is the University of Virginia Academical Village dating to the Antebellum Period and covers a large portion of the University of Virginia campus.

Table 2. Previously Conducted Archeological Surveys within the APE

Survey Report Title	Citation	Report Number
The Archaeology of Albemarle County: Results of a Systematic Survey of Proposed Development Areas in Albemarle County, Virginia	Hantman et al. 1985	AB-009
A Phase I Archaeological Resources Investigation of the Proposed 9th and 10th Streets Alignment, Charlottesville, Virginia	Cheek and Robinson 1986	AB-021

One archeological site (44AB0069) is a precontact site mapped within the proposed APE but the site record specifies that it is located within the railroad ROW within the eroding hillside. Historic topographic maps from 1892 show that the area around the railroad by Rugby Road and Chancellor Street has been somewhat graded and considerably developed. If intact, site 44AB0069 is likely buried beyond the limits of disturbance of the APE. Site 44AB0070, which is also mapped within the APE in VCRIS, is a precontact site for which deposits are likely also deeply buried below urban land or fill if present. The site record for site 44AB0070 shows that it was documented to the east of the roadway on the adjacent property and notes that portions of the site have been destroyed. Therefore, while mapped within the APE these sites will not be affected by the Undertaking. New pipelines will be installed on either side of the existing pipeline approximately in the center of the roadway, which has been previously disturbed by construction and thus

will avoid sites 44AB0305, 44AB0306, and 44AB0461; all of which are to the south of the APE where less construction activities are expected. Additionally, while it is possible that intact archeological deposits may exist in portions of the APE that were not previously disturbed by road construction and utility installation, all ground disturbing activities will take place in a densely populated and developed urban landscape and below existing paved surfaces. Project work is limited to the replacement of existing pipelines in areas that demonstrate a low probability for intact significant archaeological resources.

Table 3. Previously Recorded Archeological Sites within and adjacent to the APE

Archeological Site	Site Type	NRHP Eligibility	Proximity to APE
44AB0069	Precontact lithic scatter	Unknown	Within APE
44AB0070	Precontact lithic scatter	Unknown	Within APE
44AB0305	Historic dwelling and artifact scatter	Unknown	Adjacent to APE
44AB0306	Historic dwelling and artifact scatter	Unknown	Adjacent to APE
44AB0461	College/University	Potentially Eligible	Adjacent to APE

A half-mile search radius was also examined for previously recorded archeological sites and surveys. Within a half-mile of the APE, 43 archeological surveys have been conducted and 28 previously recorded archeological sites were identified. Of the 28 previously recorded sites within a half-mile of the APE, one site is listed in the NRHP. Site 44AB0526 is the Old Jefferson Graded Elementary School. The site is significant for its association with African American education in the City of Charlottesville and has the potential to yield significant archeological data associated with the site of the first African American school to stand on the property. The site is 190 feet (60 meters) from the eastern portion of the APE. Additionally, site 44AB0710 is recommended potentially eligible and site 44AB0525 is determined eligible. Site 44AB0710 is an Early National Period dwelling located 1,200 feet (350 meters) from the APE. Site 44AB0525 is the Foster Site historic dwelling site dating to the 18th century, and a cemetery dating to the Antebellum period. It is located 670 feet (200 meters) from the APE. All other sites identified within a half-mile of the APE are recommended not eligible for listing in the NRHP, or their eligibilities have not been evaluated.

A total of five known historic cemeteries were identified within a half-mile of the APE. The Ford Family Cemetery (44AB0484), the Foster Site Cemetery (44AB0525), the University of Virginia Cemetery Prehistoric Site (44AB0692), and the University of Virginia Enslaved Burial Ground (44AB0693) - were identified through VCRIS as recorded archeological sites. The Oakwood Cemetery and the Widderfield - Lee Cemetery were also identified through VCRIS as historic cemeteries eligible for listing in the NRHP. For clarification, site 44AB0692 is a historic period cemetery where precontact archeological resources were recovered. No known precontact burials exist at the site. No known cemeteries are located within the APE.

An examination of Web Soil Survey data within the APE reveals four soil classes including Udorthents, Cullen, Culpepper, and urban land soils (Table 4). 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 Cullen and Culpepper types. Typically slopes greater than 15 percent are not suitable for human occupation, and soil types within the APE vary from 0 to 25 percent slope. The APE is comprised mostly of urban land, which, in urban areas, may have impervious surfaces such as buildings and pavement and are largely part of a built environment. Proximity to major waterways generally indicates a suitable environment for both precontact and historic human activity. Topographic maps reveal that much of the APE is about 2 miles west of the Rivanna River, which flows to the James River in Fluvanna County.

Table 4. Soil Types within the APE

Map Unit Name	Drainage Class	Slope	Percent of APE
Udorthents, loamy	N/A	2-25%	3%
Urban land	N/A	0-25%	77%
Cullen - Urban land complex	Well drained	7-15%	5%
Culpeper - Urban land complex	Well drained	7-15%	13%
Culpeper - Urban land complex	Well drained	15-25%	2%

Historic topographic maps from 1892, 1935 and 1973 and historic aerial photographs from 1957 and 1968 were examined for archeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archeological deposits associated with the occupation of these structures. The APE is comprised of the historic town center of Charlottesville and its immediate surroundings. The earliest available historic topographic map from 1892 shows the APE located in the centrally developed portion of Charlottesville, which by this time had numerous well-established structures and institutions. The University of Virginia and its observatory is shown in the western portion of the project area and dense clusters of buildings stretching along the length of the current APE to the east. The existing railroad that bisects the APE is shown on the 1892 map and all subsequent topographic maps and aeriels. The 1935 topographic map shows the development of new roads and structures sprawling out from the city center. The 1973 topographic map reveals more detail than previous maps, showing several important municipal buildings such as City Hall and the County Courthouse a half-mile east of the APE and numerous University of Virginia-affiliated buildings in the western portion. Several schools and churches are located within a half-mile of the APE, and some align directly with the APE. Aerial photographs from 1957 and 1968 align with the historic topographic maps reviewed; the APE contains numerous clusters of buildings in a dense urban area.

Background research revealed 33 archeological sites and 45 surveys within a half-mile of the APE, and five archeological sites and two archeological surveys within or adjacent to the APE. While most of the soils are urban land types, an examination the APE indicates suitable conditions for precontact and historic period human habitation, as evident by the frequency of archeological sites noted near the APE. Historic topographic maps and aeriels indicate that historic archeological deposits may be present in parts of the APE. However, project work is limited to the replacement of existing pipelines in areas that demonstrate a low probability for intact significant archaeological resources.

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are six historic properties as defined in 36 CFR 800.16(l) within the APE, including those being treated as eligible for the purposes of consultation: West Main Street Historic District, Rugby Road-University Corner Historic District, Starr Hill Historic District, Sears Roebuck & Company (Stacey Hall), Cushman Building, Howard Johnson Motel. While sites 44AB0069 and 44AB0070 are mapped within the APE, they are likely located below or outside the APE, which only extends 36 in. below grade, and will not be affected by the work, which is confined to previously disturbed paved ROW.

While these six historic properties are located in the APE, the Undertaking will not alter any of the characteristics or contributing features of these historic properties that qualify them for inclusion in the NRHP in a manner that would diminish their integrity. Gas meter relocations will take place at two contributing properties within the West Main Street Historic District (123 4th Street NW and 325 Main Street W), as well as at the Sears Roebuck & Company (Stacey Hall), Cushman Building, and Howard

Johnson Motel. Gas meter relocations will consist of moving an existing gas meter from the interior of the building to the exterior for safer access, which is a minimal change and will not result in any physical alterations to the buildings. Work within the Rugby Road-University Corner Historic District, Starr Hill Historic District, and the rest of the West Main Street Historic District will be limited to the below-ground replacement of pipelines within the existing ROW. No character-defining materials or features of any of these six historic properties will be removed or altered as a result of the Undertaking. The Undertaking will not result in lasting physical, visual, or audible effects to NRHP-listed or eligible historic properties. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of any of the historic properties. Therefore, the Undertaking does not have the potential to adversely affect any of the identified historic properties. While the exact staging areas for the Undertaking are currently unknown, staging should be confined to paved areas; if staging cannot be confined to paved areas, geotextile fabric or other similar protective measures (such as pressure distributing mats) must be laid in any affected unpaved area to minimize ground disturbance, prevent soil compaction, and protect potential archaeological features and artifacts.

Based on this assessment, in accordance with 36 CFR Part 800.5, PHMSA has determined the Undertaking will have No Adverse Effect on historic properties.

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 Adverse Effect to Historic Properties 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 PHMSASection106@dot.gov or 857-320-1359.

Sincerely,



Matt Fuller
Senior Environmental Protection Specialist

MF/kg

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center
Renee Taylor, PHMSA Grant Specialist
Ian Thompson, Tribal Historic Preservation Officer

Enclosures:

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

Appendix H

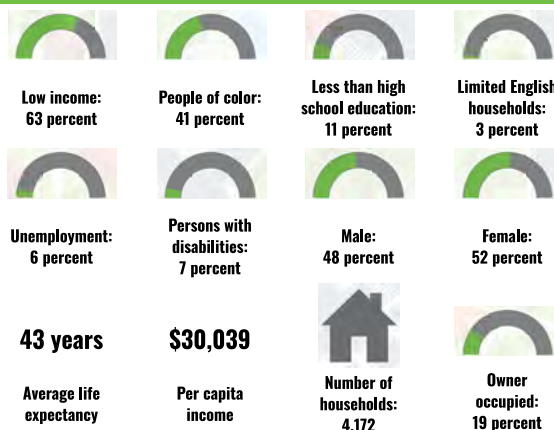
Section 4(f)

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

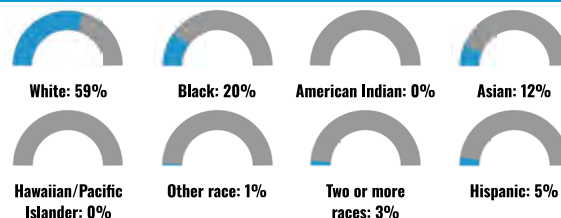
0.5 miles Ring around the Area

Population: 14,952

Area in square miles: 1.59



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



LANGUAGE	PERCENT
English	79%
Spanish	4%
Other Indo-European	5%
Korean	1%
Chinese (including Mandarin, Cantonese)	4%
Vietnamese	1%
Other Asian and Pacific Island	2%
Arabic	2%
Other and Unspecified	2%
Total Non-English	21%

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.

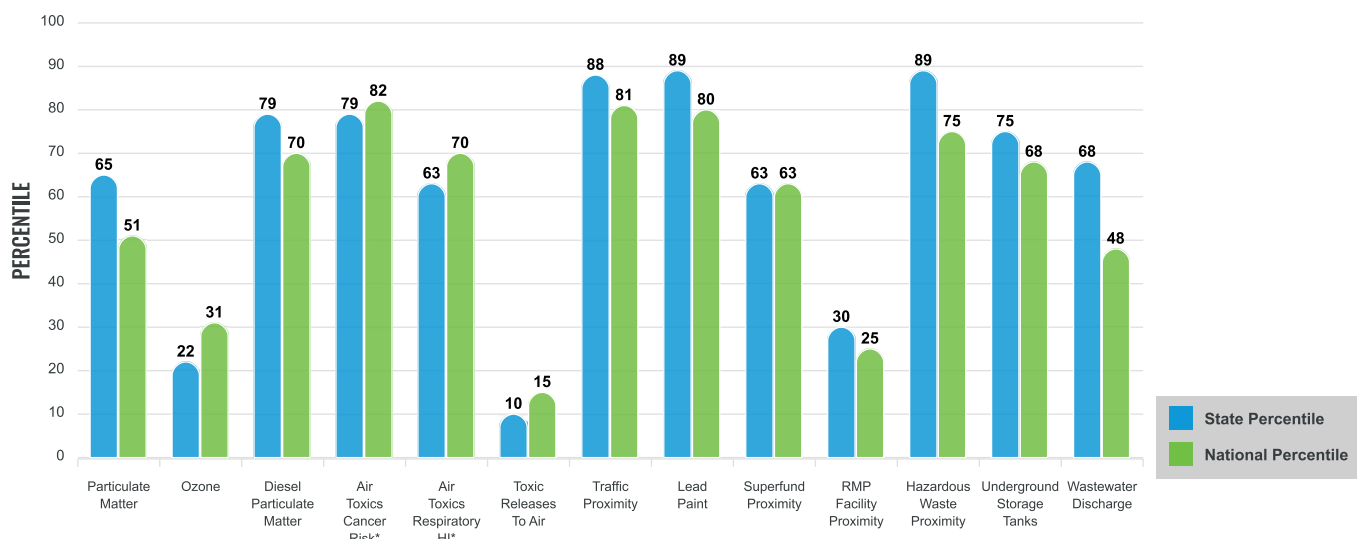
Environmental Justice & Supplemental Indexes

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.

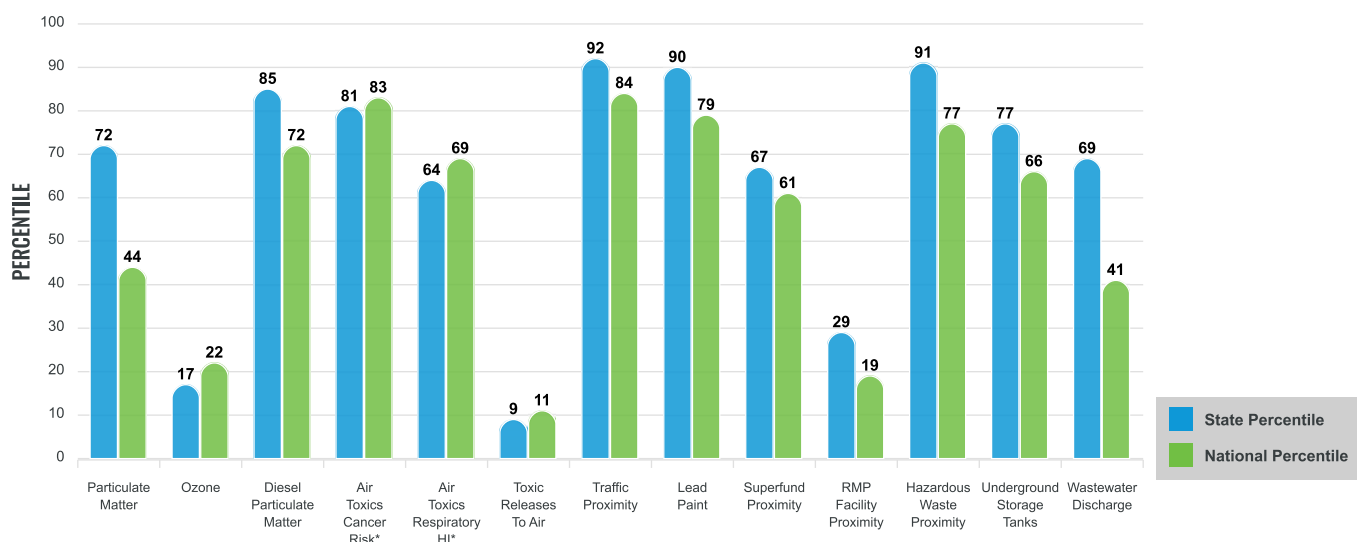
EJ INDEXES FOR THE SELECTED LOCATION



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.

Report for 0.5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	7.19	7.53	36	8.08	24
Ozone (ppb)	55.9	59.1	9	61.6	12
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.215	0.209	57	0.261	49
Air Toxics Cancer Risk* (lifetime risk per million)	30	29	26	25	52
Air Toxics Respiratory HI*	0.31	0.33	9	0.31	31
Toxic Releases to Air	2.7	4,300	3	4,600	6
Traffic Proximity (daily traffic count/distance to road)	230	150	81	210	77
Lead Paint (% Pre-1960 Housing)	0.35	0.22	76	0.3	62
Superfund Proximity (site count/km distance)	0.04	0.11	33	0.13	36
RMP Facility Proximity (facility count/km distance)	0.047	0.21	12	0.43	9
Hazardous Waste Proximity (facility count/km distance)	0.96	0.61	82	1.9	60
Underground Storage Tanks (count/km ²)	3.1	1.9	77	3.9	67
Wastewater Discharge (toxicity-weighted concentration/m distance)	3E-05	7.2	38	22	23
SOCIOECONOMIC INDICATORS					
Demographic Index	50%	31%	83	35%	74
Supplemental Demographic Index	19%	12%	85	14%	76
People of Color	41%	38%	59	39%	60
Low Income	63%	25%	94	31%	90
Unemployment Rate	6%	5%	72	6%	65
Limited English Speaking Households	3%	2%	78	5%	70
Less Than High School Education	11%	10%	66	12%	62
Under Age 5	2%	6%	21	6%	21
Over Age 64	5%	17%	12	17%	10
Low Life Expectancy	7%	20%	0	20%	0

*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	0
Air Pollution	4
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	4
Hospitals	3
Places of Worship	13

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 0.5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	7%	20%	0	20%	0
Heart Disease	2.7	5.5	7	6.1	2
Asthma	11.6	9.6	92	10	87
Cancer	2.3	6.1	1	6.1	0
Persons with Disabilities	7.2%	12.6%	21	13.4%	14

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	10%	9%	74	12%	67
Wildfire Risk	0%	2%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	18%	13%	71	14%	70
Lack of Health Insurance	8%	8%	55	9%	54
Housing Burden	Yes	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

Footnotes

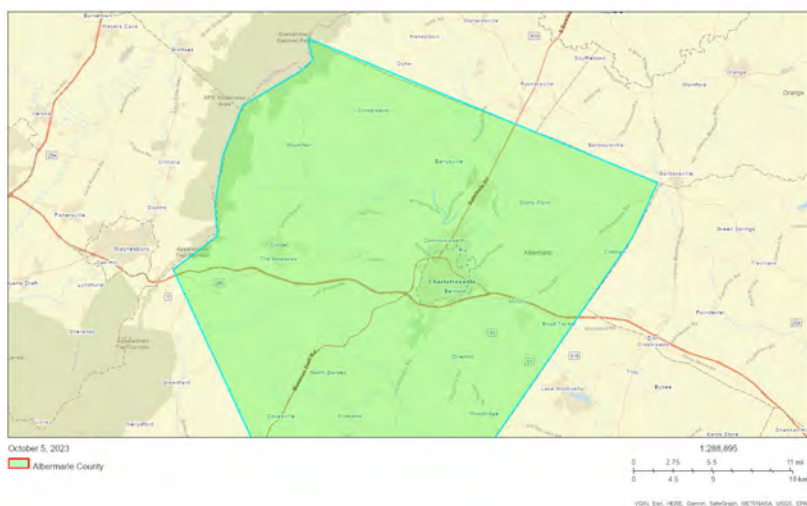
Report for 0.5 miles Ring around the Area

EJScreen Community Report

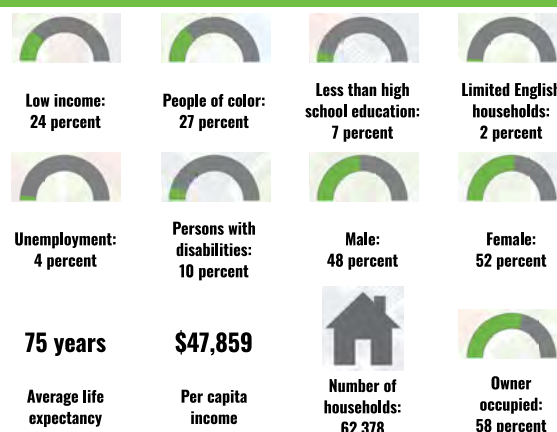
This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Albemarle County, VA

the User Specified Area
Population: 158,035
Area in square miles: 734.24



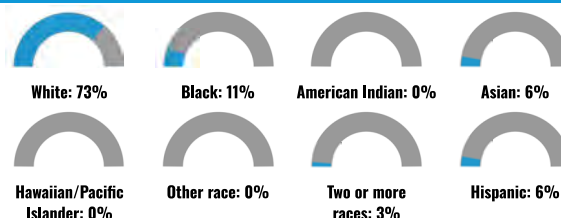
COMMUNITY INFORMATION



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	87%
Spanish	5%
French, Haitian, or Cajun	1%
Russian, Polish, or Other Slavic	1%
Other Indo-European	3%
Chinese (including Mandarin, Cantonese)	1%
Other Asian and Pacific Island	1%
Arabic	1%
Other and Unspecified	1%
Total Non-English	13%

BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



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.

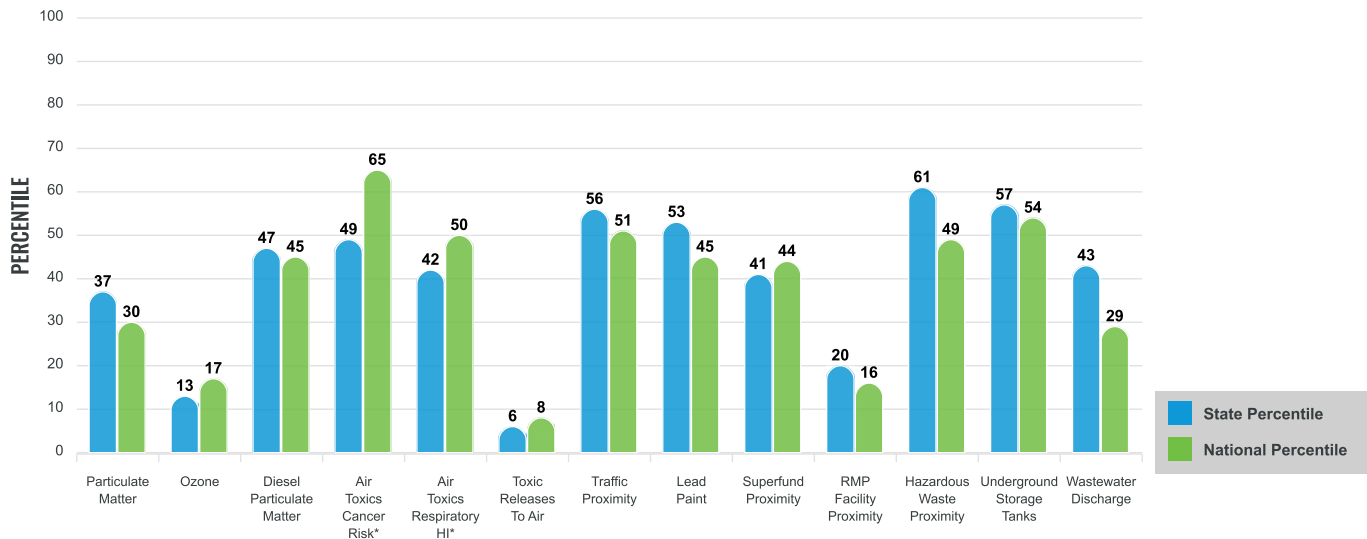
Environmental Justice & Supplemental Indexes

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.

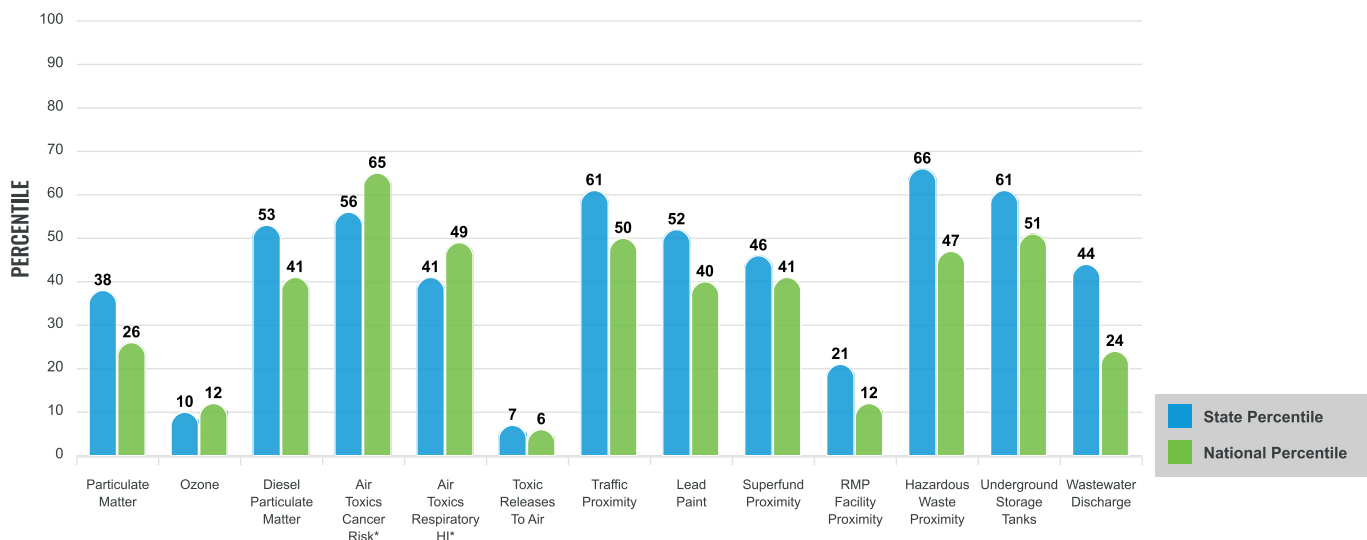
EJ INDEXES FOR THE SELECTED LOCATION



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.

Report for the User Specified Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	7.13	7.53	30	8.08	23
Ozone (ppb)	55.9	59.1	8	61.6	12
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.159	0.209	35	0.261	34
Air Toxics Cancer Risk* (lifetime risk per million)	28	29	0	25	5
Air Toxics Respiratory HI*	0.3	0.33	0	0.31	4
Toxic Releases to Air	5.2	4,300	5	4,600	7
Traffic Proximity (daily traffic count/distance to road)	98	150	61	210	56
Lead Paint (% Pre-1960 Housing)	0.2	0.22	59	0.3	48
Superfund Proximity (site count/km distance)	0.048	0.11	41	0.13	42
RMP Facility Proximity (facility count/km distance)	0.052	0.21	16	0.43	11
Hazardous Waste Proximity (facility count/km distance)	0.49	0.61	69	1.9	49
Underground Storage Tanks (count/km ²)	2.6	1.9	72	3.9	63
Wastewater Discharge (toxicity-weighted concentration/m distance)	5.5E-05	7.2	45	22	27
SOCIOECONOMIC INDICATORS					
Demographic Index	26%	31%	45	35%	44
Supplemental Demographic Index	11%	12%	51	14%	41
People of Color	27%	38%	41	39%	46
Low Income	24%	25%	55	31%	44
Unemployment Rate	4%	5%	55	6%	48
Limited English Speaking Households	2%	2%	69	5%	62
Less Than High School Education	7%	10%	49	12%	45
Under Age 5	5%	6%	55	6%	54
Over Age 64	17%	17%	56	17%	55
Low Life Expectancy	16%	20%	14	20%	14

*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	2
Water Dischargers	86
Air Pollution	
.	133
Brownfields	0
Toxic Release Inventory	17

Other community features within defined area:

Schools	39
Hospitals	11
Places of Worship	162

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 the User Specified Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	16%	20%	14	20%	14
Heart Disease	4.8	5.5	39	6.1	24
Asthma	9.5	9.6	46	10	36
Cancer	6	6.1	43	6.1	43
Persons with Disabilities	9.1%	12.6%	33	13.4%	26

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	7%	9%	59	12%	50
Wildfire Risk	1%	2%	93	14%	79

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	11%	13%	55	14%	50
Lack of Health Insurance	6%	8%	44	9%	45
Housing Burden	Yes	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

Footnotes

Report for the User Specified Area