ENVIRONMENTAL ASSESSMENT

Rivanna Station Real Property Master Plan

Charlottesville, Virginia

US Army Garrison Fort Belvoir, VA

January 2016

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Environmental Assessment

for the

Real Property Master Plan at Rivanna Station
Charlottesville, Virginia

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Finding of No Significant Impact
Rivanna Station Real Property Master Plan
U.S. Army Garrison, Fort Belvoir
Directorate of Public Works
Fort Belvoir, Virginia

Name of Action: Rivanna Station Real Property Master Plan (RPMP)

Description of Proposed Action and Need: An RPMP is needed to provide Rivanna Station with a blueprint for developing and managing real property. The RPMP identifies near-term projects needed to consolidate all personnel within a secure perimeter of Rivanna Station to reduce reliance on leased space, improve security, enhance the Anti-Terrorism Force Protection (ATFP) condition, and provide better mission continuity and connectivity.

The proposed action is to adopt and implement the RPMP for Rivanna Station and to implement the plan's proposed near-term development projects. The RPMP identifies a range of projects needed to more adequately accommodate mission requirements. These projects include:

- Expansion of secure facilities (Nicholson Building)
- Development of a Joint-Use Training Facility
- Construction of an On-Station Warehouse Facility
- Construction of an Emergency Services Center including a communication tower
- Construction of secondary and emergency access
- Relocation of parking facilities
- Construction of fitness trails
- Improvements to the water distribution system

Alternatives: The Environmental Assessment evaluated alternatives to implement the RPMP projects both within the existing property line of Rivanna Station and by expanding the station boundary. A total of five alternatives were initially identified, including the No Action Alternative:

- Alternative A – On-Site Redevelopment
- Alternative B – Southeast Station Expansion
- Alternative C – Northeast Station Expansion
- Alternative D – North Station Expansion
- No Action Alternative

The alternatives were evaluated based on a set of screening criteria. Although all of the alternatives, with the exception of the No Action Alternative, at least partially would meet the purpose and need, Alternatives A and B would better enhance the ATFP condition and generally result in lower costs of land acquisition and development. Therefore, Alternatives A and B were carried forward for environmental analysis. In addition, Alternative A was identified as the Preferred Alternative because it would cause less damage to the biological and physical environment than Alternative B. Although the No Action Alternative did not meet the purpose and need for the proposed action, it was retained for environmental analysis in accordance with Council on Environmental Quality (CEQ) and Department of the Army (Army) Regulations.

Environmental Consequences: The EA, which is attached hereto and incorporated by reference into this Finding of No Significant Impact, examined the potential effects of Alternatives A and B, and the No Action Alternative on the following resource areas: of land use and zoning; air quality; noise ; topography, soils and geology; water resources; biological resources; historic properties; socioeconomics; traffic and transportation; utilities; hazardous materials and waste; and visual and aesthetic resources.

Land Use and Zoning: Alternative A would be compatible with local land use planning and local zoning Overlay District regulations to the extent possible. Alternative B would expand the existing Station boundary to the southeast to include a 14 acre site between the Rowe Building and Greens Pond. The site has been identified as an area appropriate for Neighborhood Density Residential use and is zoned as a Rural Area. During scoping, Albemarle County indicated that they have considered designating the 14 acre parcel area for Office/Research & Development /Flex/Light Industrial use. Therefore, although an amendment to the Comprehensive Plan Future Land Use Map would be required, it is presumed that Alternative B would be consistent with local planning criteria. Alternative B would also conform to the local zoning Overlay Districts regulations to the extent possible.

Air Quality: Alternatives A and B would result in temporary construction emissions, and minor changes in vehicular emissions and stationary source emissions. Implementing best management practices during construction would minimize emissions. For instance, low emission construction techniques such as eliminating unnecessary equipment idling could be implemented. Fugitive dust will be minimized in accordance with 9 Virginia Administrative Code (VAC)5-50-90, *Standard for fugitive dust/emissions*. Sustainability measures would minimize the increases associated with new stationary sources. Per Army requirements, new construction must be built to a standard capable of achieving a U.S. Green Building Council LEED New Construction Silver rating. To meet this requirement, any new facilities will include features to conserve energy. Sustainable building technologies such as high-efficiency HVAC systems would be employed to reduce energy consumption and reduce emissions.

Noise: Short-term increases in noise levels would occur during construction of Alternatives A and B. Given that the nearest construction activity to existing residences would be over 500 feet away, the increase in noise would be minor. Alternatives A and B would result in permanent noise increases due to changes in vehicular circulation and parking. However, these changes would be unlikely to cause a substantial increase in noise to noise sensitive land use.

Topography, Soils and Geology: With both Alternatives A and B, some changes in topography as a result of grading and excavation, including blasting of bedrock would be required to construct the Nicholson Building Expansion, the secondary entry and exit road, and the Joint Use Training Facility. However, all proposed development would be outside the Steep Slopes overlay District with the exception of the new boundary fence.

Potential soil erosion during construction of Alternative A or B would be minimized. Fugitive dust generated during construction would be minimized in accordance with 9VAC5-50-90. Soil erosion due to water would be minimized through application of erosion and sediment control measures. For projects where the land disturbance would be greater than 10,000 square feet, an erosion and sediment control plan will be developed in accordance with Virginia's Erosion and Sediment Control Law and Regulations. Also, if the land disturbance would be greater than

an acre, the construction contractor must apply for coverage under the General Permit for Discharges of Stormwater from Construction Activities and prepare a Stormwater Pollution Prevention Plan (SWPPP).

Water Resources: With both Alternatives A and B the proposed development would be located outside the 500-year floodplain and Waters of the U.S. Both Alternatives A and B would increase the amount of impervious surface however, only minor changes to water quality are expected because:

- Nearly all of the projects would disturb 10,000 square feet of greater of land and therefore,
    - Water quality during construction is protected by Virginia's Erosion and Sediment Control Law and Regulations which require the development and implementation of an erosion and sediment control plan.
    - Water quality is protected by the Albemarle County Water Protection Ordinance under which a stormwater management plan must be developed and implemented to meet the required water quality and water quantity design regulations specified in 9VAC25-870-62 through 9VAC25-870-92.
- Section 438 of Energy Independence and Security Act (EISA) of 2007 applies to the proposed Warehouse Facility, Joint Use Training Facility, Emergency Services Center and the expanded Nicholson Building. Therefore, the predevelopment hydrology must be maintained to the maximum extent technically feasible.
- With the exception of the boundary fence all of the proposed projects would be located outside the 100 foot buffers along perennial streams and wetlands.

To comply with the Virginia Stormwater Management Program, Rivanna Station will develop stormwater management plans and pollution prevention plans for projects that would disturb 10,000 square feet or more of land. The pollution prevention plans would include best management practices to minimize discharge of pollutants.

In accordance with the Fort Belvoir Integrated Pest Management (IPM), non-chemical control efforts will be used to the maximum extent possible before pesticides are used at Rivanna Station.

For projects that would cause one or more acres of land disturbance, the construction contractor will apply for coverage under the General Permit for Discharges of Stormwater from Construction Activities and prepare a stormwater pollution prevention plan.

Biological Resources: Vegetation would be removed to construct the proposed development under both Alternatives A and B. Given that there are roughly 230 acres of deciduous tree cover within a one half mile radius of Rivanna Station; removal of up to 6.7 acres of forested area would be relatively minor. Regardless, mitigation for the loss of vegetation would be provided in accordance with Fort Belvoir Policy Memorandum #27, Tree Removal and Protection.

The vegetation at Rivanna Station is suitable for migratory species and summer habitat for the federally listed northern long-eared bats and Indiana bats. Therefore, a survey for birds and active nests will be conducted prior to construction to ensure that no migratory bird, active

nests, egg or hatchling will be removed, damaged or destroyed. In addition, a survey will be conducted for northern long-eared bats and Indiana bats and Section 7 consultation with the FWS will be conducted prior to removing the vegetation. Also, tree removal would occur outside the active season (April 15 through September 15) for the northern long-eared bat and Indiana bat. Finally, to avoid bird strikes, the proposed communications tower will be designed in accordance with the Fish and Wildlife Director's Memo, Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers.

The Alternatives would not directly and only minimally affect the North Fork Rivanna River, and therefore would not impact the federally listed endangered James spinymussel. However, prior to construction, Rivanna Station will coordinate with the FWS regarding the James spinymussel.

Due to the presence of invasive species, Rivanna Station will require that construction equipment be inspected and cleaned prior to leaving the site to prevent introduction or spread of these invasive species.

Historic Properties: There are no historic properties on or eligible to be listed on the National Register of Historic Places within the area of potential effect. Therefore, neither Alternative A nor B would adversely affect a historic property. However, in accordance with 36 CFR Part 800, Rivanna Station will continue to consult with the Virginia Department of Historic Resources for ground disturbing projects.

Socioeconomics: Alternative A would not affect socioeconomics. Alternative B would have a minor effect on the tax base because the 14 acre parcel would be acquired by the Army and as a result would not yield future tax revenues.

Traffic and Transportation: Both Alternative A and Alternative B would have little or no impact on existing traffic on Route 29 or at the signalized intersection of Route 29 and Boulders Road. Traffic and circulation within the Station would change as a result of redeveloping a portion of the existing parking lots into parking structures and a warehouse facility under Alternative A, and construction of a new parking facility and warehouse facility on the 14 acre site under Alternative B. It is presumed that these projects would be designed to maintain interior circulation and not degrade the level of service on interior roadways.

Utilities: Both Alternatives A and B would increase the demand for utilities; however the increase would not likely require substantial utility improvements because all of the regional services have sufficient capacity. In addition, sustainability measures would help offset the increases. Per Army policy new construction must be built to a standard capable of achieving a U.S. Green Building Council Leadership in Energy Environmental Design (LEED) New Construction Silver rating.

Construction of either Alternative A or B would temporarily increase the generation of solid waste. In accordance with Army Regulation (AR) 420-1, contracts for construction will include a performance requirement to divert a minimum of 50 percent of construction waste from landfill disposal. Also, contractors will be required to submit a construction and demolition waste management plan.

Hazardous Materials/Hazardous Waste: No existing hazardous waste issues have been identified for the site. Construction of Alternative A or B would cause a minor temporary increase in the use of fuels, oils and asphalt substances. Therefore, the contractor will be required to minimize releases via control measures. Also, the contractor will be required to prepare a site Health and Safety Plan for each project to ensure the safety of construction workers at the construction site and to document procedures if hazardous materials are discovered during construction.

With the exception of fuel storage, neither Alternative A nor B would likely increase the amount of hazardous materials stored and used at Rivanna Station. USTs would be installed to provide the required fuel storage. The USTs would meet the technical requirements in 9VAC25-580 et seq., entitled *Underground Storage Tanks: Technical Standards and Corrective Action Requirements*.

Visual and Aesthetic Resources: Both alternatives would result in changes to the views and aesthetics within the Station. As with the existing buildings, future facilities would be designed to fit well with the existing infrastructure and to enhance the landscape. Distant views of the Station from residential development on the other side of Route 29 many change. However, the views would not contrast with the existing business park environment and neither alternative would impact the Route 29 corridor forested buffer.

Under Alternative B, the development on the 14 acre site would likely be visible from higher elevations in the undeveloped hills surrounding the station classified as neighborhood density and rural areas. Since the existing Rowe Building is also likely visible from these areas, the development of the 14 acre site would not substantially contrast with the existing environment.

Summary of Environmental Impacts: No impacts are expected to historic properties. Minimal impacts to land use and zoning; air quality; noise; topography, soils and geology, water resources; biological resources; socioeconomics; traffic and transportation; utilities; hazardous materials and waste; and visual and aesthetic resources are expected. Mitigation measures described above would minimize those impacts. No significant cumulative are anticipated. No significant impacts on human health or the environment would result from the Proposed Action.

Notice of Availability: The Environmental Assessment was available for public review at the Fort Belvoir Van Noy Library and the Directorate of Public Works, Environmental Division at Fort Belvoir, VA. The Environmental Assessment was also available at the Jefferson-Madison Regional Library and its branches; Northside Library, Gordon Avenue Library and Greene County Library in Charlottesville and Stanardsville, VA. A copy of this notice and the Environmental Assessment were available at http://www.belvoir.army.mil/environdocssection2.asp. A newspaper notice of the availability of the EA was published in the Daily Progress.

Response to Comments: Comments from federal, state, and local agencies and the public received during the public review period were addressed by Fort Belvoir and included in Appendix A*, Public and Agency Coordination*, of the Environmental Assessment.. For more information, contact the Fort Belvoir Directorate of Public Works, Environmental and Natural Resource Division at 703-806-3193.

Conclusion: Pursuant to the Council on Environmental Quality (CEQ) regulations; Title 40, Code of Federal Regulations (CFR) Section 1500-1508 regarding procedural implementation of the National Environmental Policy Act (NEPA) of 1969; and implemented for the Army by Title 32 CFR 651, Environmental Analysis of Army Actions; it has been determined that the Proposed Action would not have a significant effect on the environment and that this Finding of No Significant Impact (FONSI) is appropriate. An environmental impact statement (EIS) will not be prepared.

Michelle D. Mitchell
Colonel, U.S. Army
Garrison Commander

FEB 18 2016
Date

Executive Summary

Rivanna Station is located near Charlottesville, Virginia and is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia (Fort Belvoir). Fort Belvoir is preparing this Environmental Assessment (EA) as required under the National Environmental Policy Act (NEPA) and 32 Code of Federal Regulations (CFR) Part 651 to adopt Rivanna Station's Real Property Master Plan (RPMP) and evaluate the potential environmental impacts of developing and implementing the plan's future development recommendations. The Rivanna Station RPMP includes consolidated Long-Range and Short-Range components, a station design guide, and related capital improvements programming and cost data. The RPMP defines proposed near-term real property projects and provides guidance related to the execution of those projects.

ES.1 Purpose and Need

An RPMP is needed to provide Rivanna Station with a blueprint for developing and managing real property. The RPMP identifies near-term projects needed to consolidate all personnel within a secure perimeter of Rivanna Station to reduce reliance on leased space, improve security, enhance the Anti-Terrorism Force Protection (ATFP) condition, and provide better mission continuity and connectivity.

ES.2 Proposed Action

The proposed action is to adopt and implement the RPMP for Rivanna Station and to implement the plan's proposed near-term development projects. The RPMP identifies a range of projects needed to more adequately accommodate mission requirements. These projects include:

- Expansion of secure facilities (Nicholson Building)
- Development of a Joint-Use Training Facility
- Construction of an On-Station Warehouse Facility
- Construction of an Emergency Services Center including a communication tower
- Construction of secondary and emergency access
- Relocation of parking facilities
- Construction of fitness trails
- Improvements to the water distribution system

ES.3 Alternatives

Alternatives to implement the RPMP projects both within the existing property line of Rivanna Station and by expanding the station boundary were identified and evaluated. A total of five alternatives were initially identified, including the No Action Alternative:

- Alternative A – On-Site Redevelopment
- Alternative B – Southeast Station Expansion
- Alternative C – Northeast Station Expansion

- Alternative D – North Station Expansion
- No Action Alternative

The alternatives were evaluated based on a set of criteria including: property acquisition and estimated costs; consistency with local planning and zoning; anticipated environmental impacts; and additional constraints. Although all of the alternatives, with exception of the No Action Alternative, at least partially met the purpose and need, Alternatives A and B better enhance the Anti-Terrorism Force Protection (ATFP) condition and generally result in lower costs of land acquisition and development. Therefore, Alternatives A and B were carried forward for environmental analysis. In addition, Alternative A was identified the Preferred Alternative because it would cause less damage to the biological and physical environment than Alternative B. Although the No Action Alternative did not meet the purpose and need for the proposed action, it was retained for environmental analysis in accordance with Council on Environmental Quality (CEQ) and Department of the Army (Army) Regulations. In summary, the following alternatives were carried forward for environmental analysis:

- Alternative A – On-Site Redevelopment – Preferred Alternative
- Alternative B – Southeast Station Expansion
- No Action Alternative

ES.4 Affected Environment and Environmental Consequences

The affected environment describes the existing conditions of the potentially impacted environmental resources within the study area. The general study area for this EA includes the existing property, the leased areas and the undeveloped 14 acre site to the southeast of Rivanna Station – which encompasses the construction footprint of the alternatives carried forward for environmental analysis: Alternative A, Alternative B and the No Action Alternative. The No Action Alternative does not include construction or acquisition of land and, therefore, would result in no environmental impacts. The following sections provide an overview of the environmental impacts associated with Alternative A and Alternative B.

ES.4.1 Land Use and Zoning

With Alternative A, all proposed development is within the existing Station boundary, and therefore, would be compatible with local land use planning. Alternative B would include expanding the boundary to include the 14 acre site – which is currently identified as an area for Neighborhood Density Residential use on the County's Comprehensive Plan and is zoned as Rural Area. As part of scoping, Albemarle County indicated they have considered designating the 14 acre parcel area for Office/Research & Development (R&D)/Flex/Light Industrial use.[1] Therefore, although an amendment to the Comprehensive Plan Future Land Use Map would be required, it is presumed that Alternative B would be consistent with local planning criteria. Additionally, both alternatives would conform to the local zoning Overlay Districts regulations.

[1] County of Albemarle, correspondence to K. Royce Bassarab, December18, 2014.

ES.4.2 Air Quality

Both alternatives would result in construction emissions, and minor changes in vehicular emissions and stationary source emissions. Recognizing that new stationary sources of emissions, such as generators and HVAC systems, would be reviewed for each project and that all applicable state and federal standards would be observed, it is not anticipated that the potential minor changes in emissions, taken together, would approach the threshold of significance for any of the criteria pollutants of concern.

Sustainability measures would also minimize the increases associated with new stationary sources. Per Army requirements, new construction must be built to a standard capable of achieving a U.S. Green Building Council LEED New Construction Silver rating. To meet this requirement, any new facilities will include features to conserve energy and limit emissions. In addition, best management practices could minimize construction emissions.

ES.4.3 Noise

Short-term increases in noise levels would occur during construction of Alternatives A and B. Given that the nearest construction activity to existing residences would be over 500 feet away, the increase in noise due to construction would be minor. Alternatives A and B would result in permanent noise increases due to changes in vehicular circulation and parking. However, these changes would be unlikely to cause a substantial increase in noise to noise sensitive land use.

ES.4.4 Topography, Soils and Geology

Construction would require some changes in topography as a result of grading for proposed construction. The proposed development is located outside the Steep Slopes Overlay District with the exception of the new boundary fence. Installation of the fence would preserve to the maximum extent practicable the areas identified as preserved slopes

Potential soil erosion during construction would be minimized. Fugitive dust generated during construction would be minimized in accordance with 9VAC5-50-90, *Standard for fugitive dust/emissions*. Soil erosion due to water would be minimized through application of erosion and sediment control measures. For projects where the land disturbance would be greater than 10,000 square feet, an erosion and sediment control plan will be developed in accordance with Virginia's Erosion and Sediment Control Law and Regulations.

Under Alternative B, a portion of the 14 acre expansion site is designated as prime farmland. However, the Farmland Conversion Impact Rating score indicated the impact to farmlands would not exceed the threshold of significance.

ES.4.5 Water Resources

Neither alternative would alter local surface water or groundwater. Additionally, all proposed development under both alternatives would be located outside of Waters of the U.S. and the 500-year floodplain. Minimal indirect impacts to water quality and the Waters of the U.S. would be expected due

to minor sedimentation during construction, changes in local drainage and an increase in impervious surface. Alternative A and Alternative B would result in increases of approximately 1.6 and 6.6 acres of impervious surface, respectively. These increases in impervious surface along with minor construction sedimentation and localized drainage changes would be expected to result in only minimal changes to water quality and Waters of the U.S. because:

- Nearly all of the projects would disturb 10,000 square feet of greater of land and therefore,
    - Water quality during construction is protected by Virginia's Erosion and Sediment Control Law and Regulations which require the development and implementation of an erosion and sediment control plan.
    - Water quality is protected by the Albemarle County Water Protection Ordinance under which a stormwater management plan must be developed and implemented to meet the required water quality and water quantity design regulations specified in 9 VAC25-870-62 through 9VAC25-870-92.
- Section 438 of the Energy Independence and Security Act (EISA) of 2007 applies to the proposed Warehouse Facility, Joint Use Training Facility, Emergency Services Center and the expanded Nicholson Building. Therefore, the predevelopment hydrology must be maintained to the maximum extent technically feasible.
- With the exception of the boundary fence all of the proposed projects would be located outside the 100 foot buffers along perennial streams and wetlands.

ES.4.6 Biological Resources

Vegetation would be removed to construct the proposed development under both alternatives. Alternative A and B would remove an estimated 1.4 and 6.7 acres of forested areas, respectively, and Alternative B would additionally remove an estimated 1.5 acres of maintained grassland. Mitigation for the loss of vegetation would be provided in accordance with Fort Belvoir Policy Memorandum #27, *Tree Removal and Protection*.

The vegetation at Rivanna Station is suitable for migratory bird species and summer habitat for the federally listed northern long-eared bats and Indiana bats. Therefore, a survey for birds and active nests will be conducted prior to construction to ensure that no migratory bird, active nests, egg or hatchling will be removed, damaged or destroyed. In addition, a survey will be conducted for northern long-eared bats and Indiana bats and Section 7 consultation with the FWS will be conducted prior to removing the vegetation. Finally, tree removal would occur outside the active season (April 15 through September 15) for the northern long-eared bat and Indiana bat.

The Alternatives would not directly and only minimally affect the North Fork Rivanna River, and therefore would not impact the federally listed endangered James spinymussel. However, prior to construction, Rivanna Station will coordinate with the FWS regarding the James spinymussel.

Impacts to biological resources under both Alternatives would not exceed the threshold of significance because:

- The Alternatives would not jeopardize the continued existence of the federally listed endangered James spinymussel, northern long-eared bat or Indiana bat because they would only minimally affect the water quality in the North Fork Rivanna River and tree removal would only occur outside the northern long-eared bat or Indiana bat active season (April 15 through September 15);
- The Alternatives would not result in destruction of critical habitat because according to the FWS IPaC planning tool, no critical habitats for federally endangered or threatened species are within the project area;
- The Alternatives would require removal of forested areas, however, given the large amount of forested habitat available near Rivanna Station and that the loss of the forested area will be addressed in accordance with Fort Belvoir Policy Memorandum #27, Tree Removal and Protection, the removal would not decrease the available habitat for commonly found species to the extent that the species could no longer exist in the area; and
- The Alternatives would not eliminate a known sensitive habitat such as breeding areas, habitats of local significance, or rare or state-designated significant natural communities needed for the survival of a species because no such habitats were identified in the Virginia DCR Natural Heritage Resources search.

ES.4.7 Historic Properties

There are no historic properties on or eligible to be listed on the National Register of Historic Places within the area of potential effect. Therefore, neither Alternative A nor B would adversely affect a historic property. However, in accordance with 36 CFR Part 800, the Army will continue to consult with the Virginia Department of Historic Resources (VDHR) for ground disturbing projects.

ES.4.8 Socioeconomics

Neither Alternative A nor Alternative B would affect location or distribution of population, income, or employment within Albemarle County. The alternatives would cause only minor changes in air quality, water quality and no change to hazardous materials or waste, and would therefore not be expected to result in high and adverse health or safety risks that would disproportionately affect children. Disproportionate affects to minority or low-income populations would not occur because the potentially affected census tracts are not considered minority or low-income populations.

Alternative B would have a minor effect on the tax base because the 14 acre parcel would be acquired by the Army and as a result would not yield future tax revenues.

ES.4.9 Traffic and Transportation

Both Alternative A and Alternative B would have little or no impact on existing traffic on Route 29 or at the signalized intersection of Route 29 and Boulders Road. There are no anticipated mission changes or additional missions that would result in large increases in personnel in the foreseeable future. Therefore, the number of employees would remain approximately the same with only minor fluctuations due to changes in contingency staffing.

Traffic and circulation within the Station would change as a result of redeveloping a portion of the existing parking lots into parking structures and a warehouse facility under Alternative A, and construction of a new parking facility and warehouse facility on the 14 acre site under Alternative B. It is presumed that these projects would be designed to maintain interior circulation and not degrade the level of service on interior roadways.

Both alternatives would not impact an existing or future route for bicycles or pedestrians. Furthermore, the alternatives provide a new recreational trail for employee use.

ES.4.10 Utilities

Both Alternatives would increase the demand for utilities; however the increase would not likely require substantial utility improvements because all of the regional services have sufficient capacity. In addition, sustainability measures would help offset the increases. Per Army policy new construction must be built to a standard capable of achieving a U.S. Green Building Council Leadership in Energy Environmental Design (LEED) New Construction Silver rating.

Both Alternatives include local improvements to the Station's water distribution system that would enhance water quality, pressure and supply.

Construction would temporarily increase the generation of solid waste. In accordance with Army Regulation (AR) 420-1, contracts for construction will include a performance requirement to divert a minimum of 50 percent of construction waste from landfill disposal. Also, contractors will be required to submit a construction and demolition waste management plan.

Neither the operation nor construction of the alternatives would cause long-term disruption of utilities in the neighboring areas.

ES.4.11 Hazardous Materials and Waste

Construction of Alternative A or B would cause a minor temporary increase in the use of fuels, oils and asphalt substances. If accidently released in high quantities, these substances could be considered hazardous. Therefore, the contractor will be required to minimize releases via control measures. Construction would be unlikely to disturb hazardous waste as no hazardous waste sites were identified within the study area. However, the contractor will be required to prepare a site Health and Safety Plan for each project to ensure the safety of construction workers at the construction site and to document procedures if hazardous materials are discovered during construction.

With the exception of fuel storage, neither Alternative A nor B would likely increase the amount of hazardous materials stored and used at Rivanna Station because the proposed projects do not change the facility mission nor increase staffing levels. Fuel storage would increase to accommodate new emergency generators. Underground Storage Tanks (USTs) would be installed to provide the required fuel storage. The USTs would meet the technical requirements in 9VAC25-580 et seq., entitled Underground Storage Tanks: Technical Standards and Corrective Action Requirements. Therefore, accidental release would not be expected.

ES.4.12 Visual and Aesthetic Resources

Both alternatives would result in changes to the views and aesthetics within the Station. As with the existing buildings, future facilities would be designed to fit well with the existing infrastructure and to enhance the landscape. Distant views of the Station from residential development on the other side of Route 29 many change. However, the views would not contrast with the existing business park environment and neither alternative would impact the Route 29 corridor forested buffer.

Under Alternative B, the development on the 14 acre site would likely be visible from higher elevations in the undeveloped hills surrounding the station classified as neighborhood density and rural areas. Since the existing Rowe Building is also likely visible from these areas, the development of the 14 acre site would not substantially contrast with the existing environment.

ES.4.13 Cumulative Impacts

Reasonably foreseeable development in the vicinity of Rivanna was reviewed for its potential to contribute to cumulative effects. The following development projects were identified due to their proximity to Rivanna Station: office and residential development adjacent to Rivanna Station, Boulders Road extension; Bus Rapid Transit service on Route 29; a multi-use path along Route 29; and a trail on the 14 acre site.

The potential for these projects, along with the proposed RPMP development, to contribute to cumulative impacts was analyzed. It was found that there is a potential for cumulative impacts to air quality; noise; topography, soils and geology; water resources; utilities; hazardous materials and waste; and visual and aesthetic resources. However, the cumulative impacts would be minor and not expected to reach any defined thresholds of significance.

ES.4.14 Conclusion

Neither Alternative A (the preferred alternative), nor Alternative B would result in significant impacts on the human or natural environment. Therefore, an Environmental Impact Statement (EIS) is not required.

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Acronyms and Abbreviations

AADT	Average Annual Daily Traffic
ACP	Access Control Point
ACSA	Albemarle County Service Authority
AIA	Airport Impact Area
APE	Area of potential effect
AQCR	Air Quality Control Region
AR	Army Regulation
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASTM	American Society for Testing and Materials
ATFP	Anti-Terrorism Force Protection
AWWTP	Advanced Waste Water Treatment Plant
BGEPA	Bald and Golden Eagle Protection Act
CAA	Clean Air Act
CAT	Charlottesville Area Transit
CDC	Child Development Center
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CORRACTS	Corrective Action
CTB	Commonwealth Transportation Board
CWA	Clean Water Act
CZM Program	Coastal Zone Management Program
CZMA	Coastal Zone Management Act
dBA	decibel
DIA	Defense Intelligence Agency
DoD	Department of Defense
DoDIIS	Department of Defense Intelligence and Information Services
EA	Environmental Assessment
ECOP	Environmental Condition of Property
EFH	Essential fish habitat
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
FNSI	Finding of No Significant Impact

FPPA	Farmland Protection Policy Act
FWCA	Fish and Wildlife Conservation Act
FWS	U.S. Fish and Wildlife Service
GHGs	Greenhouse Gases
GI	Green Infrastructure
GRH	Guaranteed Ride Home
HGL	Hydraulic grade line
HVAC	Heating, ventilation and air conditioning
INSCOM	United States Army Intelligence and Security Command
IPaC	Information, Planning, and Conservation System
JUIAF	Joint Use Intelligence Analysis Facility
KW	Kilowatt
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LOS	Level of service
LTANKS	Leaking Tanks
LUST	Leaking Underground Storage Tank
MACT	Maximum Achievable Control Technology
MBTA	Migratory Bird Treaty Act
MGD	Million gallons per day
MS4s	Municipal Separate Storm Sewer Systems
MSL	Mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGA	National Geospatial Intelligence Agency
NGIC	National Ground Intelligence Center
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
O_3	8-hour ozone
Pb	Lead
PDC	Planning District Commission
PM	Particulate matter
$PM_{10/2.5}$	Particulate matter with aerodynamic diameter of 10 or 2.5 microns and less
POV	Personally owned vehicle
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
RDF	Remote Distribution Facility
REC	Recognized Environmental Concern
RPMP	Real Property Master Plan
RRBC	Rivanna River Basin Commission
SF	Square foot

SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	Sulfur dioxide
SYIP	Six-Year Improvement Plan
TIP	Transportation Implementation Plan
TMDLs	Total Maximum Daily Loads
tpy	Tons per year
UFC	United Facilities Criteria
USACE	U.S. Army Corp of Engineers
USDA	U.S. Department of Agriculture
UST	Underground Storage Tank
VCC	Visitor Control Center
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDHR	Virginia Department of Historic Resources
VDOT	Virginia Department of Transportation
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program
WIP	Watershed Implementation Plan

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1 Purpose and Need

1.1 Introduction

Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an Environmental Assessment (EA) as required under the National Environmental Policy Act (NEPA) and 32 Code of Federal Regulations (CFR) Part 651 to adopt Rivanna Station's Real Property Master Plan (RPMP) and evaluate the potential environmental impacts of developing and implementing the plan's future development options.

Rivanna Station was acquired in the late 1990's and currently consists of approximately 75.5 acres of land, approximately 95 miles driving distance from the Fort Belvoir Main Post area. The station is located in Albermarle County, approximately 12 miles north of Charlottesville, Virginia. Rivanna Station is accessible via Boulders Road, located off of Route 29/Seminole Trail, a major urban growth corridor for the greater Charlottesville region. **Figure 1-1** presents the location of Rivanna Station.

1.1.1 Real Property Master Planning

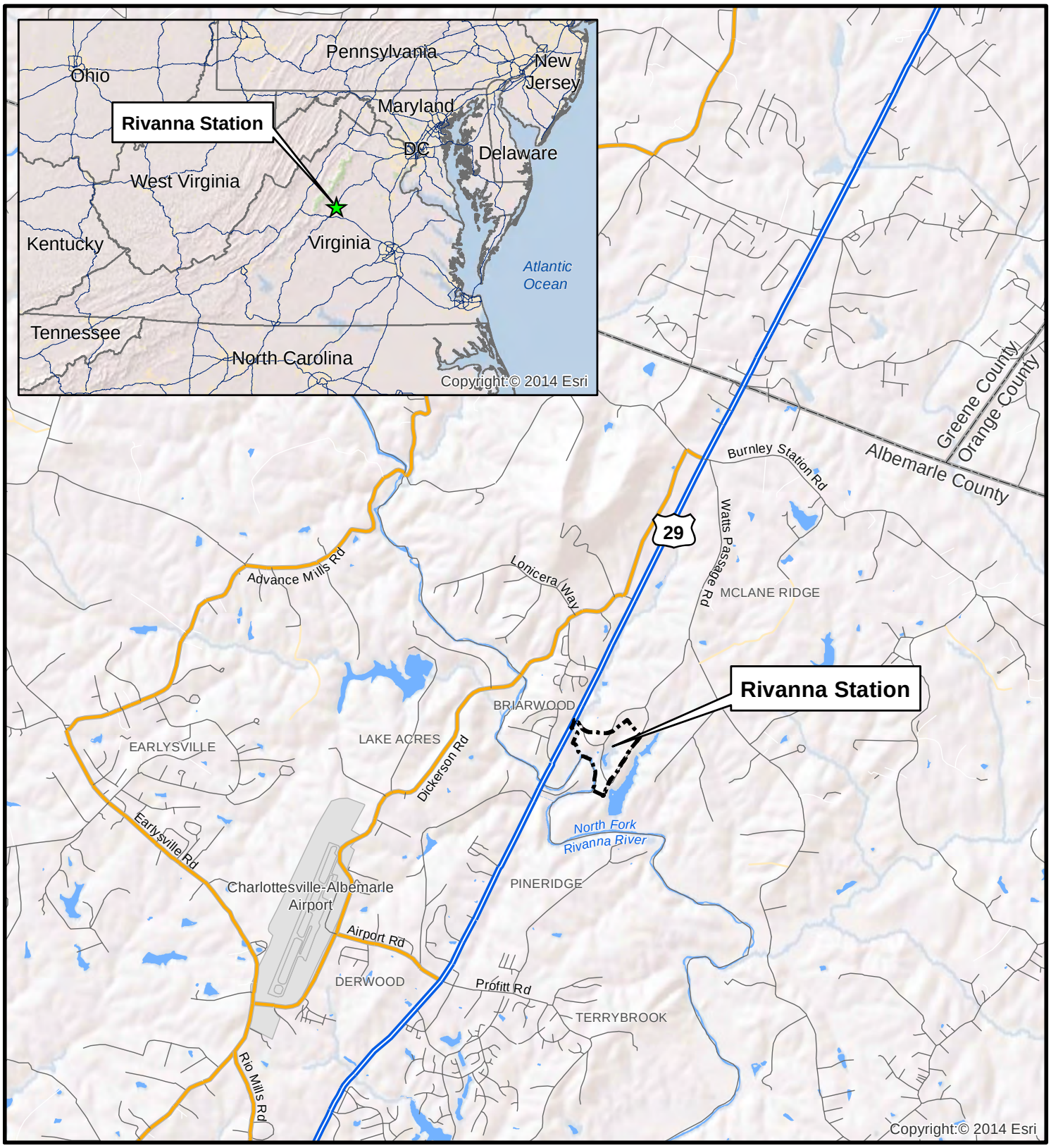
The development of an Installation RPMP manages the real property assets and includes the identification of potential future actions. Master plans for Army installations are prepared in accordance with the Department of Defense's (DoDs) United Facilities Criteria (UFC) 2-100-01 *Installation Master Planning*, updated in May 2012, and Army Regulation (AR) 210-20, *Real Property Master Planning for Army Installations*, updated in May 2005. Rivanna Station is described as a remote location in the Fort Belvoir RPMP and planning issues for Rivanna Station have not been addressed as part of that study. The Rivanna Station RPMP includes consolidated Long-Range and Short-Range components, a design guide, and related capital improvements programming and cost data. The RPMP reflects the short and long term needs of Rivanna Station and key mission partners from DoD Intelligence and Information Services (DoDIIS) at Rivanna Station. The RPMP defines proposed near-term real property projects and provides guidance related to the execution of those projects.

Army regulations require the preparation of NEPA documentation in conjunction with the preparation of an RPMP.[1] NEPA requires the evaluation and consideration of the environmental impacts of proposed federal actions. Therefore, Fort Belvoir prepared this EA in tandem with the RPMP to determine whether there will be significant environmental impacts from the proposed projects identified in the RPMP.

1.1.2 Background

Rivanna Station is home to three primary mission partners reporting directly to the DoD: the National Ground Intelligence Center (NGIC), Defense Intelligence Agency (DIA), and the National Geospatial-Intelligence Agency (NGA). United States Army Intelligence and Security Command (INSCOM), headquartered on Fort Belvoir, conducts intelligence, security and information operations for military

[1] 32 CFR Part 651, *Environmental Analysis of Army Actions*, § 651.20(d).



Legend

- Rivanna Station
- Highway
- Major Road
- Local Road
- County Boundary
- Water

Figure 1-1
Location Map

0 1,250 2,500 5,000 Feet

N

Source: Rivanna Station GIS, ESRI
Prepared on 01/09/15

commanders and national decision makers. NGIC, one of INSCOM's major subordinate commands, is the DoD's primary producer of ground forces intelligence. DIA is a DoD combat support agency that produces, analyzes, and disseminates military intelligence information to combat and non-combat military missions. NGA provides timely, relevant, and accurate geospatial intelligence in support of national security.

NGIC operations at Rivanna Station are housed in the Nicholson Building, a 258,000 square foot facility constructed in 2000. DIA operations associated with the Joint Use Intelligence Analysis Facility (JUIAF) at Rivanna Station are housed in the Rowe Building, a 170,500 square foot facility constructed in 2010. The NGA personnel on Rivanna Station are co-located in the Rowe and Nicholson buildings. The Station also includes a Child Development Center, Access Control Point and Visitor Control Center buildings and a Remote Distribution Facility. Current mission functions which are located off-site include personnel in leased office space located immediately to the northeast of the existing campus (ULC #1); parking located on leased property immediately to the north of the existing campus; and warehousing and deliveries screening functions located on leased space in a remote location in downtown Charlottesville. **Figure 1-2** presents the location of facilities located on and immediately surrounding Rivanna Station.

1.2 Purpose and Need

The proposed action is the adoption of the RPMP for Rivanna Station and implementation of the proposed projects identified therein. Adoption of the RPMP serves the purpose of allowing Rivanna Station (as a subinstallation of Fort Belvoir) to meet the requirements of Army Regulation 210-20, to address infrastructure needs and future development options, and to accommodate the current and forecast personnel and mission requirements of Rivanna Station within a secure perimeter.

An RPMP will assist Rivanna Station in providing a secure and safe operating environment for the key defense intelligence mission partners and activities. The Rivanna Station campus currently consists of approximately 75.5 acres of land area that has limited ability to accommodate existing mission functions currently located in leased facilities and leased land located outside the present campus boundaries. The station has experienced significant growth since its initial establishment in the late 1990's and the construction of the first mission partner facility in 2000. The construction of the Rowe Building in 2010 nearly doubled the workforce population, and was the subject of a separate NEPA analysis completed in 2008.

In addition to core mission functions, the campus has also begun to develop complimentary land uses and support activities necessary to provide a more self-sustaining campus for core mission functions and personnel. As described in the preceding section some of the current mission functions are located off-site.

An RPMP is needed to provide Rivanna Station with a blueprint for developing and managing real property. The RPMP identifies proposed near-term projects needed to consolidate all personnel within a secure perimeter of Rivanna Station to reduce reliance on leased space, improve security, enhance the Anti-Terrorism Force Protection (ATFP) condition (a force protection level related to terrorist threats), and provide better mission continuity and connectivity.

Legend

- Station Boundary
- Leased Facilities
- Station Fenceline

Figure 1-2
Existing Conditions

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 01/09/15

1.3 The NEPA Process

NEPA established the national policy for the environment and the Council on Environmental Quality (CEQ), and provides for the consideration of environmental issues in federal agency planning and decision-making. To implement the NEPA policies, CEQ promulgated *the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR Parts 1500-1508, referred to as the CEQ Regulations). Both NEPA and the CEQ Regulations require that federal agencies establish procedures to comply with the intended purpose of NEPA. Both also require federal agencies to encourage and facilitate public involvement as part of the NEPA process.

Army procedures to comply with NEPA are set forth in 32 CFR Part 651, *Environmental Analysis of Army Actions*. As such, these regulations establish the Army policies and responsibilities to integrate environmental considerations early in the decision making process. Instructions on preparing NEPA documentation and carrying out public and agency coordination are provided in the subject regulations.

Under the guidance provided in NEPA and in 32 CFR Part 651, either an environmental impact statement (EIS) or an EA must be prepared for any federal action.[2] If an action may significantly affect the environment, an EIS would be prepared. An EA provides sufficient evidence and analysis for determining whether or not to prepare an EIS. The contents of an EA include the need for the proposed action, alternatives to the proposed action, environmental impacts of the proposed action and alternatives; and documentation of agency coordination.

An evaluation of the environmental consequences of the proposed action and alternatives includes direct, indirect, and cumulative effects, as well as qualitative and quantitative (where possible) assessment of the level of significance of these effects. The EA results in either a Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI) to prepare an EIS. If Fort Belvoir determines that this proposed action may have a significant impact on the quality of the human environment, then an EIS will be prepared.

1.4 Agency and Public Participation

1.4.1 Scoping

Fort Belvoir initiated coordination early in the development of the EA by conducting agency scoping. Scoping is the process of soliciting information from interested parties for the purposes of identifying issues, alternatives and potentially impacted resources. Agency scoping can range from simply sending letters requesting input from a few interested parties to conducting multiple agency and public meetings/workshops. The anticipated stakeholder interest and potential environmental impacts were considered in conducting scoping for this EA.

[2] Actions that are determined to be exempt by law, “emergencies”, or “categorically excluded” do not require the preparation of an EA or EIS.

Scoping notices were sent to federal, state and local agencies as well as other primary stakeholders. The notices advised recipients of the intent to prepare an EA and requested input. The scoping notices also provided preliminary information regarding the Proposed Action including:

- Preliminary purpose of and need for the Proposed Action;
- Preliminary alternatives; and
- Environmental impact categories potentially affected by the Proposed Action.

The stakeholder-scoping meeting was held on November 20, 2014 at the Best Western Charlottesville. The meeting included a brief presentation by the project team followed by a question/answer/comment period. Summaries of comments from the scoping meeting as well as the attendance sheets and scoping presentation are included in ***Appendix A***.

1.4.2 EA Public Review

Interested agencies and members of the public were afforded an opportunity to review the EA and Draft Finding of No Significant Impact (FNSI). Letters and/or e-mails were sent to agencies to advise them of the availability of the EA and Draft FNSI and to request comments. Public availability of the documents was announced on the Fort Belvoir website. See *Appendix A* for relevant letters, e-mails and notices.

Fort Belvoir received comments on the EA and Draft FNSI from several agencies. The comments and Fort Belvoir's responses are provided in *Appendix A*.

2 Description of the Proposed Action and Alternatives

The proposed action is to adopt and implement the RPMP for Rivanna Station and to implement the plan's proposed near-term development projects. This chapter presents an overview of the RPMP, a description of the Proposed Action projects, and presents the range of alternatives evaluated as part of this EA.

2.1 Real Property Master Plan Mission, Vision, and Guiding Principals

Rivanna Station provides a secure and safe operating environment for key defense intelligence mission partners. The Master Plan Guiding Principles were developed in consultation with the garrison and mission partner representatives during a master plan visioning workshop held in April 2012. The principles provide guidance for the future development of Rivanna Station in a manner that is compatible with the overarching guiding principles adopted for Fort Belvoir while recognizing the unique missions and specific geographic location considerations of Rivanna Station. These principles are the foundation for the development of alternatives for the RPMP, and include:

- Support Mission Requirements: Create a self-sustaining, enduring station that meets the present and future needs of mission partners;
- Address Key Deficiencies: Maintain options to expand existing facilities while developing a variety of station access options, supporting land uses, activities, and infrastructure resiliency and redundancy that compliment mission requirements and improve safety, security and self-sufficiency;
- Provide Flexibility for Future Mission Requirements: Examine a variety of growth scenarios and options to accommodate mission requirements both within and beyond the existing fenceline to ensure the station can accommodate existing mission requirements while providing the ability to accommodate unforeseen mission changes; and
- Environmental Sensitivity: Respect the unique natural terrain, features and eco-systems that characterize the local area. Develop facilities that minimize disruption to natural systems and limit consumption of energy and water resources.

The vision for Rivanna Station is to create a safe and secure research, analysis and development station providing state of the art intelligence support services for the DoD; to provide flexibility needed for dynamic mission growth with minimal impact on the surrounding communities and the natural environment; and a legacy of permanence, resiliency and self-sufficiency. Completion and adoption of the RPMP for Rivanna Station fulfills Army Regulation (AR) 210-20, Real Property Master Planning for Army Installations.

2.2 Proposed Action

The RPMP has identified a range of projects needed to more adequately accommodate the existing mission and anticipated future potential organizational and mission changes and realignment. Current facilities at Rivanna Station are operating above their initial capacity, and as a result, the DoD leases off-site facilities to accommodate personnel and parking.

The current level of authorized and funded civilian/military and contractor permanent force structure for Rivanna Station is approximately 2,300. This workforce is supplemented at times by contingency (temporary) increases as needed. Currently, the combined DoD and contractor workforce numbers are approximately 2,600. DoD and contractor personnel are located in the Nicholson Building (approximately 1,200 staff) and in the Rowe Building (approximately 1,000 staff). Additionally, 400 staff are located outside of Rivanna Station in a leased facility (ULC #1). While there are no anticipated mission changes or additional missions that would result in large increases in personnel in the foreseeable future, the overall workforce may fluctuate based on the level of contingency staffing. For planning purposes in this EA, a planning range of 2,440 to 2,860 personnel, a possible 10% maximum fluctuation, is used. The following projects are needed to accommodate the existing and reasonably foreseeable missions at Rivanna Station.

2.2.1 Expansion of Secure Facilities (Nicholson Building)

An expansion of the Nicholson Building is needed to accommodate current overcrowding and improve security and coordination by relocating the current personnel working in leased space adjacent to the campus. The Nicholson Building was designed to accommodate approximately 700 personnel, yet currently houses approximately 1,200 personnel. The Rowe Building was initially designed to accommodate approximately 850 personnel, but currently houses approximately 1,000. In both buildings, work space is shared, and non-mission space has been diverted to mission work space, thereby eliminating space for personnel support facilities. Further, the current off-site leases expire in 2019. Without consolidation, the currently disjointed operations will continue to impede Army-wide information operations.

The DoD has previously identified expansion options for the Nicholson Building, located to the northwest of the existing facility, and is currently in the planning and programming phase of development. The 2008 EA included the following description:

> The 73,000+ SF four-story addition to the 260,000 SF NGIC Nicholson Building. The addition would be constructed on the north side matching levels 2 to 5 of the existing building. It would have a base footprint of approximately 20,750 SF. The third and fourth floors would be benched into the hillside to the north and east of the existing building, which would require excavation (and some blasting of bedrock) of an approximately 20,000 SF area. The volume of bedrock and excavated materials would be determined prior to the construction of the Nicholson Building addition. The addition would be equipped with an energy management control system and two 1,000 kilowatt (kW) standby generators.

The 2008 EA also considered the construction of a 3-level parking garage that would accommodate 260 parking spaces.

2.2.2 Development of a Joint-Use Training Facility

A Joint-Use Training facility would house on-post training, vendor meetings, conferences, and similar events. The need for constructing a 10,000 square foot Joint-Use Training facility is to help overcome the lack of space for such functions in the Nicholson and Rowe buildings. This facility would improve the security of the Nicholson and Rowe buildings by reducing the number of daily visitors needing entry to these buildings.

2.2.3 Construction of an On-Station Warehouse Facility

The need for constructing an on-site warehouse facility is to reduce transportation costs, improve security, and replace undersized functions currently provided in an off-site leased space that is remote from the station. Based on current activity levels, the proposed on-site warehouse facility would need to be approximately 60,000 square feet in size.

2.2.4 Construction of an Emergency Services Center

An Emergency Services Center is needed to reduce response times to incidents that occur within Rivanna Station. Per discussion with Fort Belvoir Police Department representatives, the Emergency Services Center would need to be sized to accommodate combined police and emergency response services including one medical unit and one single engine company. This facility would be used as a first-responder facility and would be augmented by resources from the nearby Albemarle County Fire Rescue Station #12.

2.2.5 Construction of a Communications Tower and Support Facilities

The need for constructing the communications tower and support facilities is to improve land mobile network communications. The communication tower and support facilities would need to be located proximate to police and security functions and therefore would likely be co-located with the Emergency Services Center.

2.2.6 Construction of Secondary and Emergency Access

The need for providing secondary and emergency access is to provide redundancy of access from Route 29 in the event that the main Access Control Point via Boulders Road is not available due to a traffic incident or other event. Long-range plans, undertaken by Albemarle County, include the completion of Boulders Road which will provide a second access point to Route 29. Fort Belvoir is in the planning and development stage of this project, and anticipates constructing a 12 foot wide by 460 foot long asphalt security road from the northwest corner of the Nicholson Building parking lot to the traffic circle south of Boulders Road. An additional concrete pad is planned to be constructed to allow fire trucks sufficient access to the south side of the Nicholson Building.

2.2.7 Relocation of Parking Facilities

The need for constructing additional parking spaces is necessitated by the current level of overcrowding and the need to vacate the off-site leased parking area currently located north of Boulders Road and at ULC#1. The addition to the Nicholson building and the relocation of the warehouse facility will further increase the need for additional parking. Approximately 550-600 spaces are anticipated to be needed, which could be met by constructing two parking structures on current surface parking lot sites to alleviate the parking shortage within the secure perimeter.

2.2.8 Construction of Fitness Trails

The need for providing fitness trails is to accommodate requests by tenants for walking trails and other outdoor exercise areas to compliment the indoor fitness areas located in both the Nicholson and Rowe buildings. An added benefit to the construction of perimeter walking trails is that such trails could also be designed and used for security purposes to improve access and visibility to the fenceline around the station perimeter.

2.2.9 Improvements to the Water Distribution System

The need for providing improvements to the water distribution system is to provide a more robust looped water supply network at the station to improve water quality, pressure and supply.

2.3 Implementation of RPMP Projects

The RPMP includes the development of additional facilities to accommodate mission functions including office space (expansion of secure facilities, construction of a Joint Use Training Facility), parking, support services (construction of a warehouse facility and fitness trails), and safety (construction of emergency access and improvements to utilities). Rivanna Station is a subinstallation of Fort Belvoir, and as such, Fort Belvoir will have ultimate authority and responsibility for the planning, design and construction of elements of the Proposed Action. Rivanna Station's mission partners (DIA, NGIC and NGA) participate in the identification of facility needs and project planning.

Full implementation of the projects identified in the RPMP will bring all services within a secure perimeter at Rivanna Station. Generally, nearly all of the station's activities occur within or adjacent to Rivanna Station, as the parcel on which ULC #1 sits is contiguous with Rivanna Station (although not within the secure perimeter and not subject to the Access Control Point), and the leased parking lot is located immediately north across Boulders Road. Warehousing activities that currently take place in an off-site location in downtown Charlottesville represent the only consolidation of activity beyond Boulders Road.

Construction of the projects included in the RPMP is anticipated to occur between 2015 and 2023. Current leases on office space in ULC #1 and the leased parking facilities expire in 2019. Rivanna Station has immediate overcrowding issues and it is anticipated that, pending approval through the NEPA process and the availability of funding sources, design and construction of most projects would begin within one to two years. Phasing of construction of projects in the RPMP will depend on the selection of a Preferred Alternative.

2.4 Alternatives

An EA must include consideration of alternatives to the proposed action per CEQ and Army Regulations. The Council for Environmental Quality's (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* establish a number of policies for Federal agencies, including ". . . using the NEPA process to identify and assess the reasonable alternatives to the proposed action that will avoid or minimize adverse effects of these actions on the quality of the human environment."[1] The DoD has considered the following alternatives to implement the RPMP:

- Accommodating the RPMP projects within the existing property line of Rivanna Station.
- Accommodating the RPMP projects by expanding the station boundary.

In keeping with NEPA and CEQ requirements, the No Action Alternative is also evaluated. The No Action Alternative, which would not include development of the RPMP projects and would result in the continued overcrowding and use of leased facilities, is included to serve as a baseline against which to evaluate the impacts of the other alternatives.

In order for an alternative to be reasonable, it must fulfill the purpose and need for the Proposed Action. When implementing the RPMP, the purpose is to accommodate the current and forecast personnel and mission partner requirements within a secure perimeter. The projects identified in the RPMP are driven by the need to reduce the reliance on leased space, to improve security, to enhance the ATFP condition, and to provide better mission continuity and connectivity.

The range of potential alternatives was developed considering policy requirements and the geography of the Rivanna Station site. A total of five alternatives were initially identified, including the No Action Alternative. The first criteria by which to evaluate an alternative is to determine whether it would meet the purpose and need for the project. All of the alternatives identified in the RPMP and EA at least partially meet the purpose of implementing the RPMP.

2.5 Alternatives Screening

The first step in the alternatives screening process was to evaluate each alternative based on a set of criteria. Screening criteria were developed to assist in determining the potential issues associated with the range of alternatives. The criteria and considerations associated with each include the following:

- **Property Acquisition and Estimated Costs** - Army Regulation 405–10 sets forth the authority, policy, responsibility, and procedures for the acquisition of real property and interests therein, for military purposes by the Department of the Army. The Army is currently operating under a moratorium on major land acquisition projects. Any such acquisition program requires additional review and approval by the Under Secretary of Defense (Acquisition, Technology and Logistics).

[1] 40 CFR Parts 1500-1508, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, §1500.2 [e].

- **Consistency with local planning and zoning** – This category discusses the existing and proposed land uses not included within the current Rivanna Station fenceline as they relate to each alternative.
- **Anticipated Environmental Impacts** – Anticipated environmental impacts compare the potential for significant environmental impacts for each alternative. More detailed analysis of those alternatives carried forward for detailed analysis is considered in Chapter 3, Affected Environment and Environmental Consequences.
- **Additional Constraints** – This category includes other considerations that are relevant for each alternative.

The following sections describe the range of alternatives developed in the RPMP, and summarize the alternative in association with the screening criteria.

2.5.1 Alternative A – On-Site Redevelopment

Alternative A focuses all development within the existing property boundary at Rivanna Station. Under this alternative, both the lease for parking located north of Boulders Road and the office space and parking at ULC #1 would be terminated. In general, opportunities to accommodate major new development are limited to small in-fill sites or redevelopment of surface parking lots, which represent the only remaining large "developable" land resources located within the current boundaries of Rivanna Station. In order to accommodate the parking within existing Rivanna Station property, two new elevated parking structures would be constructed, and a secure addition to the Nicholson Building and a warehouse would be constructed.

To construct the projects identified in the RPMP, the following actions would need to be taken. Construction projects are identified on **Figure 2-1**.

- Redevelop a portion of existing parking lots (Lot B and Lower Lot) into parking structures (550-600 spaces) in order to relocate off-site parking facilities on-post;
- Redevelop a portion of an existing parking lot (Lot B) into a warehouse facility (60,000 square feet) in order to relocate off-site warehouse facilities on-post;
- Expand the Nicholson Building by 100,000 square feet to accommodate approximately 220 personnel currently located in leased space in ULC#1;
- Construct a 10,000 square feet Joint Use Training Facility for on-post uses, such as training, vendor meetings and conferences;
- Construct secondary and emergency access entry/exit points on Boulders Road to provide a secondary access point to Route 29 in order to provide redundancy;
- Construct recreation trails for walking and other outdoor exercise uses;
- Construct an Emergency Services Center including a communications tower to accommodate combined police and emergency response service; and
- Improve the water distribution system.

Legend

- Existing Station Boundary
- Existing Station Fenceline
- Proposed Fenceline
- Recreation Trail
- Ingress / Egress

Figure 2-1
Alternative A
On-Site Redevelopment Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 04/9/15

Purpose and Need: This alternative would meet the purpose and need for the project. Bringing all Rivanna Station activity inside the fenceline would eliminate the need to lease space, improve security and enhance force protection, and provide better mission connectivity and continuity.

Property Acquisition and Cost: No additional property would be acquired for this alternative.

Consistency with local planning and zoning: Rivanna Station is located in the Piney Mountain Development Area and according to the County's current draft Comprehensive Plan is designated for Office/Research & Development (R&D)/Flex/Light Industrial use. Therefore the alternative is consistent with local planning criteria.

Potential Environmental Considerations: Development at Rivanna Station has focused in the areas most suitable for construction. Avoidance of existing wetlands and preserved steep slopes designated by Albemarle County are primary considerations for the development of future facilities.

Additional Considerations: Opportunities for on-post development are limited, as there is little vacant land available for development due to the terrain of the site. Existing surface parking lots represent the only relatively flat areas that could be suitable for new buildings, but the loss of these parking areas and the termination of off-site leased spaces would require the development of structured parking (garages). The cost of construction of structured parking is a key consideration of this alternative.

2.5.2 Alternative B – Southeast Station Expansion

Alternative B would expand the existing Station boundary to the southeast to accommodate existing and future growth. An undeveloped site lies to the southeast of Rivanna Station between the Rowe Building and Greens Pond, as shown on **Figure 2-2**. The site is currently undeveloped and is characterized by open fields and wooded areas that slope from a highpoint at the current station boundary southeastward towards Greens Pond.

Under this alternative both the lease for parking located north of Boulders Road and the office space and parking at ULC #1 would be terminated. Additional parking and a warehouse facility would be constructed on the expanded property to the southeast. A secure addition to either the Nicholson or the Rowe building and a warehouse would also be constructed. Figure 2-2 presents the location of proposed facilities. To construct the projects identified in the RPMP, the following actions would need to be taken:

- Expand the existing station to the southeast into undeveloped property located adjacent to the southeastern border of Rivanna Station between the Rowe building and Greens Pond (the Southeast Station Expansion site);
- Construct 550-600 spaces of surface parking in order to relocate off-site parking facilities within the expanded Southeast Alternative site;
- Relocate off-site warehouse facilities to a new 60,000 square feet warehouse facility on-post within the expanded Southeast Alternative site;
- Expand the Nicholson Building by 100,000 square feet to accommodate approximately 220 personnel currently located in leased space in ULC#1 and to accommodate future growth;

Legend

- Existing Station Boundary
- Existing Station Fenceline
- Proposed Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 01/09/15

Figure 2-2
Alternative B
Southeast Station Expansion Alternative

0 125 250 500 Feet

N

- Construct a 10,000 square feet Joint Use Training Facility for on-post uses, such as training, vendor meetings and conferences;
- Construct secondary and emergency access entry/exit points on Boulders Road to provide a secondary access point to Route 29 in order to provide redundancy;
- Construct recreation trails for walking and other outdoor exercise uses;
- Construct an Emergency Services Center including a communications tower to accommodate combined police and emergency response service; and
- Improve the water distribution system.

Purpose and Need: This alternative would meet the purpose and need for the project. Acquiring a portion of property to the southeast and constructing facilities within would eliminate the need to lease space and provide better mission connectivity and continuity. Expanding the station in a contiguous area would take advantage of the site's topography to create a natural boundary (Greens Pond), thereby improving security and enhancing force protection. An expansion in this area would provide additional stand-off distance as an anti-terrorism force protection/security enhancement countermeasure, to prevent encroachment from development along the major growth corridor in Albemarle County

Property Acquisition and Cost: This alternative would require the acquisition of approximately 14 acres of currently vacant land between Greens Pond and the existing station boundary. The Army would propose to purchase a portion of two parcels from the current landowner for use as part of Rivanna Station. The larger parcel (03300-00-00-01500) is approximately 89 acres, and was assessed by Albemarle County in 2014 with a land value of $5,477,000 and a land use value of $33,800[2]. For planning purposes and general comparison among alternatives, a per-acre cost of acquisition $61,529 per acre is used to estimate the cost of the 14 acre portion of $861,546.

Consistency with local planning and zoning: The 14 acre site is a rectangular-shaped area within the Piney Mountain Development Area boundary in the County's current draft Comprehensive Plan. The site has been identified as an area appropriate for Neighborhood Density Residential use and is zoned as a Rural Area. However, Albemarle County has considered designating the area for Office/Research & Development (R&D)/Flex/Light Industrial use.[3] Therefore, although an amendment to the Comprehensive Plan Future Land Use Map would be required, it is presumed that the alternative would be consistent with local planning criteria.

Potential Environmental Considerations: The site is currently vacant with no existing structures, and is partially forested and partially maintained open field. Environmental considerations include the potential for archaeological resources, the presence of threatened or endangered species, potential wetland impacts, and the potential for hazardous materials. The location of potential development in relation to Greens Pond will require careful consideration of stormwater management and portions of the property are considered by Albemarle County's to be preserved or managed steep slopes.

[2] "Virginia law allows eligible land in agricultural, horticultural, forest or open space to be taxed upon the land's value in use (use value) as opposed to the market value."
[3] County of Albemarle letter to K. Royce Bassarab, AICP dated December 18, 2014.

2.5.3 Alternative C – Northeast Station Expansion

Alternative C would expand the existing Station boundary to the northeast in areas currently partially leased to accommodate Rivanna Station staff and contractors (ULC #1). With expansion of this existing developed area, the expansion of the Nicholson Building would not occur. The off-site warehouse could be constructed in this area, and additional surface parking (approximately 200 to 300 spaces) could be constructed. This expansion would not, however, completely alleviate the need to continue to lease the gravel parking lot located to the north of Boulders Road. Other projects as part of the Proposed Action would be constructed throughout the existing Station area.

As shown in **Figure 2-3**, the following actions are associated with the Northeast Station Expansion.

- Expand the station into property adjacent to Rivanna Station to the northeast in the vicinity of the ULC #1 site;
- Construct a parking facility with 200-300 spaces in order to partially relocate off-site parking facilities within the expanded Northeast Alternative site.
- Relocate off-site warehouse facilities to a new 60,000 square feet warehouse facility on-post within the expanded Northeast Alternative site;
- Construct a 10,000 square feet Joint Use Training Facility for on-post uses, such as training, vendor meetings and conferences;
- Construct secondary and emergency access entry/exit points on Boulders Road to provide a secondary access point to Route 29 in order to provide redundancy;
- Construct recreation trails for walking and other outdoor exercise uses;
- Construct an Emergency Services Center including a communications tower to accommodate combined police and emergency response service; and
- Improve the water distribution system.

Purpose and Need: This alternative meets a portion of the purpose and need for the project. Acquiring property to the northeast would transfer the ownership of ULC #1 to the Army and would allow additional construction of facilities on the site. However, expansion in this area would not necessarily completely reduce the need to continue leasing the parking facilities north of Boulders Road. This alternative would improve security and enhance force protection by bringing more activity within a secure environment and reducing the potential for non-military development that could be used to observe activities at Rivanna Station.

Property Acquisition and Cost: This alternative would require the acquisition of two parcels (03300-00-00-001D1 and 03300-00-00-001D2) comprising approximately 14.7 acres in total. The land is currently partially developed with an office building and associated parking. The total value of the land according to the Albemarle County assessor in 2014 is $20,610,100, as shown in **Table 2.1**.

Legend

- Existing Station Boundary
- Leased Facilities
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Figure 2-3
Alternative C
Northeast Station Expansion Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 04/09/15

Table 2.1
Alternative C Property Values

Parcel	Land Value (2014)	Improvements (2014)	Total
03300-00-00-001D1	$1,498,900	$0	$1,498,900
03300-00-00-001D2	$1,356,200	$17,755,000	$19,111,200
Total			**$20,610,100**

Source: Albemarle County Assessor, accessed 12/9/2014.

Adding to the potential acquisition costs of this alternative are any approved development plans associated with the property as initially filed by the property owner. The development of the ULC #1 building was initiated in the 2007-2008 timeframe, during which the property owner filed an application permit that included plans for the ultimate construction of two office buildings and one residential building on the two parcels.

Consistency with local planning and zoning: The two parcels share similar land use and zoning characteristics. Both are designated as Office/R&D/Flex/Light Industrial use within the County's current draft Comprehensive Plan and are zoned for Commercial Office development. Therefore, use of the properties for the proposed development would be consistent with these designations.

Potential Environmental Considerations: The site is currently developed and leased to support activities at Rivanna Station. Environmental considerations include the potential for archaeological resources, the presence of threatened or endangered species, potential wetland impacts, and the potential for hazardous materials. As of the property owner's original zoning amendment and list of proffers issued by Albemarle County, a potentially historic resource (family cemetery) is located on the north side of Boulders Road but would not be impacted by the development. A portion of these parcels are classified by Albemarle County as having managed steep slopes[4]. Because a majority of the site has been previously disturbed, it is not anticipated to result in significant environmental impacts.

2.5.4 Alternative D – North Station Expansion

Alternative D would expand the existing Station boundary to encompass a vacant lot currently used for leased parking north of Boulders Road. Under this alternative, the Station boundary would be split across Boulders Road, which is a public access road. In order to meet ATFP requirements, either construction of a secure bridge overpass over Boulders Road to allow for access through the existing Access Control Point or construction of an additional Access Control Point within the expanded boundary would be necessary.

The alternative includes the development of a warehouse facility and additional parking in the expanded area. Other projects in the RPMP, including the expansion of the Nicholson Building, would be

[4] According to the Albemarle County Steep Slope Overlay District, effective March 5th, 2014, slopes of twenty-five (25) percent or greater depicted as a managed slope, which may be developed if Design Standards are adhered to.

constructed throughout the existing Station area. **Figure 2-4** presents the layout of development projects under this alternative, which consists of the following projects:

- Expand the station into property north of Boulders Road.
- Construct a permanent parking facility with 550-600 spaces on-post within the expanded North Alternative site;
- Relocate off-site warehouse facilities to a new 60,000 square feet warehouse facility on-post within the expanded North Alternative site;
- Expand the Nicholson Building by 100,000 square feet to accommodate personnel currently located in leased space in ULC#1;
- Construct a 10,000 square feet Joint Use Training Facility for on-post uses, such as training, vendor meetings and conferences;
- Construct or arrange rights of access for secondary and emergency access entry/exit points on Boulders Road to provide a secondary access point to Route 29 in order to provide redundancy;
- Construct recreation trails for walking and other outdoor exercise uses;
- Construct an Emergency Services Center including a communications tower to accommodate combined police and emergency response service; and
- Improve the water distribution system.

Purpose and Need: This alternative partially meets the purpose and need for the project. Acquiring property to the north would allow the Station to accommodate needed development, but it would also create logistic challenges to maintaining a high level of ATFP due to a non-contiguous Station boundary.

Property Acquisition and Cost: This alternative would require the acquisition of one parcel (03300-00-00-01400) comprising of approximately 15.2 acres in total. The land is currently vacant and leased for additional parking for Rivanna Station. The total value of the land according to the Albemarle County assessor in 2014 is $1,426,100. Additional cost would be incurred with this alternative because a bridge between the existing Access Control Point and the expanded Station boundary would be required.

Consistency with local planning and zoning: While the parcel is zoned a Rural Area, it is designated as Office/R&D/Flex/Light Industrial use in County's current draft Comprehensive Plan. Therefore the alternative is consistent with local planning criteria.

Potential Environmental Considerations: The site is currently vacant with no existing structures, and is used as additional parking for Rivanna Station. Environmental considerations include the potential for archaeological resources, the presence of threatened or endangered species, potential wetland impacts, and the potential for hazardous materials. A potentially historic resource (family cemetery) is located on the north side of Boulders Road and would need to be avoided. A portion of the parcel is classified by Albemarle County as having managed steep slopes, located to the north of the existing parking area[5].

[5] According to the Albemarle County Steep Slope Overlay District, effective March 5th, 2014, slopes of twenty-five (25) percent or greater depicted as a managed slope, which may be developed if Design Standards are adhered to.

Legend

- Existing Station Boundary
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 04/09/15

Figure 2-4
Alternative D
North Station Expansion Alternative

0 125 250 500 Feet

N

2.5.5 No Action Alternative

The No Action Alternative must be evaluated per Army and CEQ Regulations. The No Action Alternative represents Rivanna Station without an RPMP including future projects. In this case, the No Action Alternative would maintain the existing boundaries of Rivanna Station and no additional land would be acquired, as shown on **Figure 2-5**. The use of off-site parking and warehouse facilities that are remote from the station would continue and facilities would not be consolidated on-post. Mission requirements currently housed in off-site leased space in ULC#1 would remain in that location. There would be no property acquisition costs associated with this alternative, although there would be continued lease costs associated with off-site facilities. The existing Rivanna Station is consistent with existing and future land use planning documents in Albemarle County. Potential environmental impacts are described in more detail in Chapter 3, Affected Environment and Environmental Consequences.

Although the No Action Alternative would not meet the purpose and need for the proposed action, it was retained and evaluated in accordance with Army and CEQ Regulations and in order to serve as a baseline against which to compare the impacts of other alternatives.

2.6 Alternatives Eliminated from Further Consideration

Following the identification of the range of potential alternatives in the RPMP, a ranking of feasible alternatives was undertaken for the EA. The following considerations lead to the elimination of Alternative C (Northeast expansion area) and Alternative D (North expansion area).

- Alternatives C and D do not fully meet purpose and need for the proposed action, as neither alternative improves ATFP measures to the same degree as Alternatives A or B.
    - Alternative C does not completely alleviate the need to continue to lease the gravel parking lot located to the north of Boulders Road.
    - Alternative D would result in the Station boundary crossing Boulders Road, resulting in a non-contiguous boundary.
- Alternative C is anticipated to have the highest cost of initial land acquisition, due to the improvements already present and the anticipated development that has been initially approved by Albemarle County.
- Alternative D would result in non-contiguous Station boundary that additionally includes the cost of constructing a vehicular and pedestrian bridge across Boulders Road to maintain a secure facility.

2.7 Alternatives Carried Forward for Environmental Analysis

All of the alternatives with the exception of the No Action Alternative would at least partially meet the purpose and need for the proposed action. However, Alternatives A and B would better improve the ATFP and generally result in lower costs of land acquisition and development. Therefore, Alternatives A and B were carried forward for environmental analysis. Alternative A was identified as the Preferred Alternative because it would cause less damage to the biological and physical environment than Alternative B. Although the No Action Alternative would not meet the purpose and need for the

Legend

- Existing Station Boundary
- Existing Station Fenceline
- Leased Facilities

Figure 2-5
No Action Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 01/09/15

proposed action, it was retained for environmental analysis in accordance with CEQ and Army Regulations. In summary, the following alternatives were carried forward for environmental analysis:

- Alternative A – On-Site Redevelopment – Preferred Alternative
- Alternative B – Southeast Station Expansion
- No Action Alternative

3 Affected Environment and Environmental Consequences

3.1 Introduction

The purpose of this chapter is to identify the affected environment and to disclose the potential environmental consequences of the alternatives carried forward for environmental analysis.

The affected environment describes the existing conditions of the environmental resources potentially impacted by the alternatives. The first step in describing the affected environment is to establish the geographic area where potential impacts are expected to take place by identifying a study area. The study area is the geographic area where the potential impacts of the alternatives retained for further study are analyzed. The extent of the study area depends upon the environmental resource being evaluated. For the purposes of this EA, one general study area is defined. The general study area illustrated in **Figure 3-1** includes the existing property, the leased areas and the undeveloped site to the southeast of Rivanna Station between the Rowe Building and Greens Pond. The general study area encompasses the construction footprint of the alternatives carried forward for environmental analysis. When the general study area is not applicable, the specific study area is described in the section addressing the associated resource.

Once the affected environment is identified, the potential effects of the alternatives on that affected environment are assessed. Several terms are used to describe effects, also referred to as impacts, in this document. The effect may be described as positive or adverse. "Positive" meaning that the alternative would have a beneficial effect on the subject resource. The level of adverse or negative effect is described relative to the established threshold of significance. Adverse or negative impacts described as minimal or minor would have little effect on the resource and therefore would not exceed the applicable threshold of significance. An impact would be described as "significant" if it were to exceed the applicable threshold of significance.

The threshold of significance is resource specific and established by considering context and intensity. Both context and intensity are considered because the level of intensity deemed significant may differ based on context. For instance, the threshold of significance for noise impacts would likely be different in a large city as compared to a remote national park.

The assessment of effects is limited to those alternatives retained for further consideration. As described in Chapter 2, the alternatives retained for further consideration are the No Action Alternative, Alternative A – On-Site Redevelopment – Preferred Alternative and Alternative B – Southeast Station Expansion Alternative. These alternatives have the potential to affect the following environmental resource categories:

- Land Use/Zoning
- Air Quality
- Noise
- Topography, Soils and Geology

Legend

Station Fenceline

General Study Area

Figure 3-1
General Study Area

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 04/9/15

- Water Resources
- Biological Resources
- Historic Properties
- Socioeconomics
- Traffic and Transportation
- Utilities
- Hazardous Materials and Waste
- Visual and Aesthetic Resources
- Cumulative Effects

Therefore, the affected environment and potential effects of the No Action and Action Alternatives relative to these categories are described in the following subsections.

3.2 Land Use and Zoning

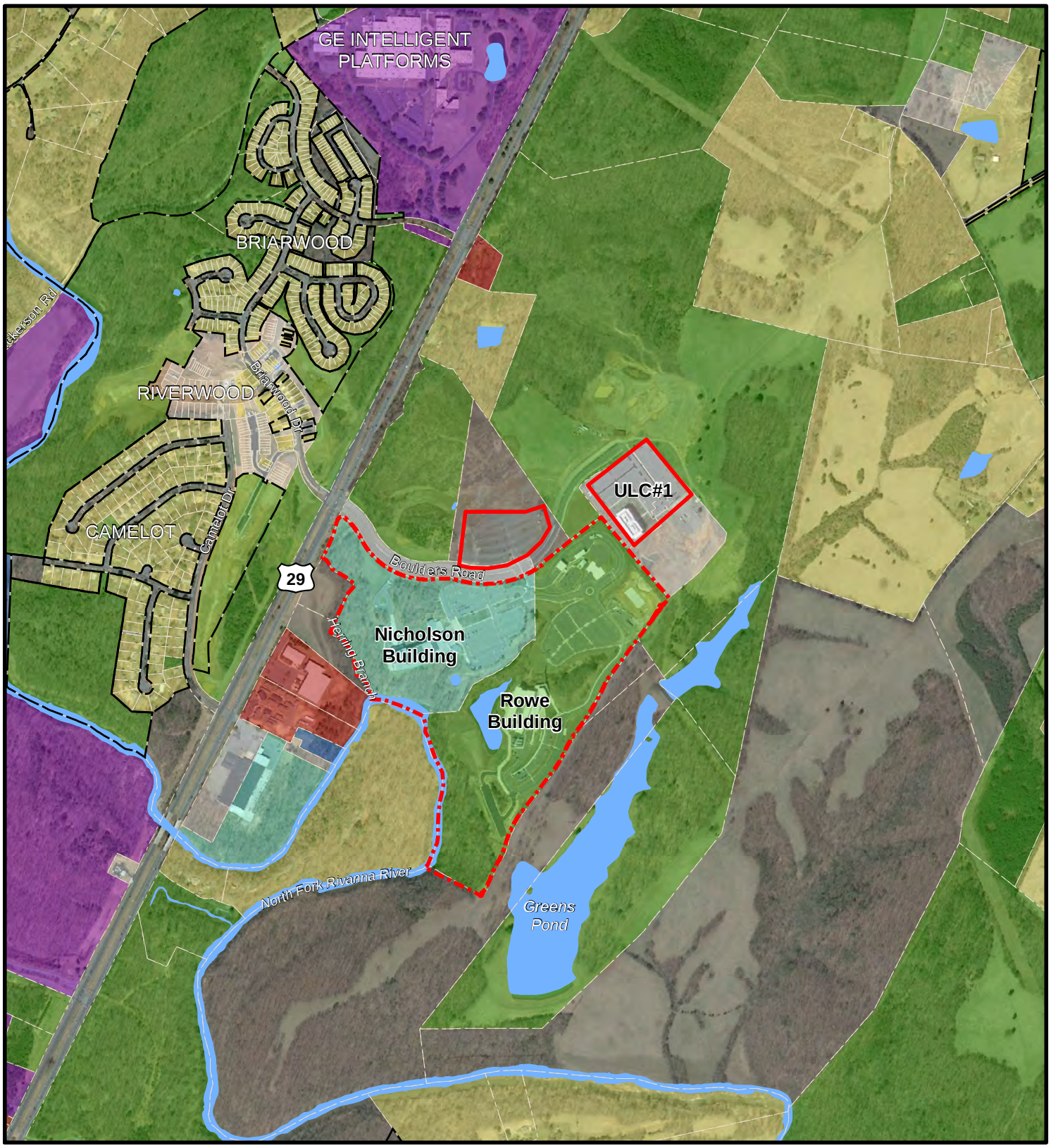
The land uses and zoning in and around Rivanna Station, and the potential for the alternatives to impact these land uses/zoning are described in the following sections. The existing and future land use plans and zoning in the vicinity of the general study area are described in the following sections.

3.2.1 Affected Environment

3.2.1.1 Existing Land Use

Rivanna Station encompasses approximately 75.5 acres located along the rapidly developing Route 29 corridor. The Route 29 (Seminole Trail) corridor north of Charlottesville is part of the region's high-tech research and development center. The land uses within Rivanna Station include two primary office facilities and associated land uses designed to support them, including parking, an Access Control Point and Visitors Control Center and a Child Development Center. Land to the north of Boulders Road is undeveloped, a portion of which is leased for parking at Rivanna Station. Land uses to the immediate northeast of Rivanna Station include ULC #1, an office building and associated parking leased by Rivanna Station. To the east, the site slopes down to vacant and partially wooded land leading to Greens Pond. The Station is bordered to the south by the North Fork Rivanna River. Commercial and industrial development is located to the west of Rivanna Station along the east side of Route 29. Existing land uses are shown in **Figure 3-2**.

Adjacent developments include major research and development facilities for Fortune 500 corporations, a major master planned mixed-used business park and high density residential developments. The GE Intelligent Platforms research and development facility is located to the north of Rivanna Station on the west side of Route 29. Three large residential developments are located opposite Rivanna Station (Briarwood, Camelot, and Riverwood).



Legend

- Station Boundary
- Leased Facilities
- Station Fenceline
- Parcel Boundary
- Subdivisions
- Agricultural
- Commercial
- Forest
- Industrial
- Office
- Open
- Public
- Residential
- Semi-Public
- Unassigned

Figure 3-2
Existing Land Use

N
0 250 500 1,000 Feet

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Albemarle County GIS
Prepared on 02/03/15

Further south on Route 29 is the University of Virginia Research Park, a 562-acre, three-million-square-foot, fully master planned, mixed-use development zoned for office, light industry, hotel/conference center, laboratory/medical/pharmaceutical, and retail/support commercial uses. The Northside Industrial Park, the Airport Industrial Park, the Airport Center Commercial Center and the Charlottesville-Albemarle County Airport are also located south of Rivanna Station on Route 29.

3.2.1.2 Future Land Use

The Virginia General Assembly has delegated comprehensive planning and the regulation of the use and development of land through zoning and subdivision ordinances. Rivanna Station is located within the planning jurisdiction of Albemarle County and development of the land outside of the Station is guided by planning and zoning policies and regulations adopted by Albemarle County.

Each county within the Commonwealth of Virginia is required to develop and adopt a Comprehensive Plan. Albemarle County adopted its first comprehensive plan in 1971, and is in the process of updating and adopting the Comprehensive Plan. According to Albemarle County, the purpose of the Comprehensive Plan is to guide the coordinated, adjusted, and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity, and general welfare of the inhabitants of the County. The Comprehensive Plan is the chief document of relevance for assessing the compatibility of planning actions considered at Rivanna Station.

Albemarle County has been divided into two general categories of planning areas; Development Areas which accommodate existing and planned urban density development; and Rural Areas that are designated for agricultural uses, very low density development and land conservation. The Development Areas, 11 in total, account for 35 square miles (about 5 percent) of the county's total 726 square miles, while the remainder of land in the County is divided into four Rural Areas.

Within the Development Areas, the County has adopted the Neighborhood Model to guide development, and neighborhoods (including residential, employment and mixed use) make up the fundamental unit of community planning. New development and redevelopment are guided by 12 principles of the Neighborhood Model outlined in the Comprehensive Plan. Centers are the focal points of neighborhoods and generally have higher densities and a concentration of amenities. A neighborhood service center is identified on the future land use map.

Places29 is one of five master plans for the County's Development Areas. The *Places29* Master Plan addresses the areas north of the City of Charlottesville forming a corridor centered on Route 29: Neighborhood 1, Neighborhood 2, Hollymead, and Piney Mountain. The vision outlined in *Places29* states that Albemarle County's Northern Development Areas will feature compact development consisting of residential and employment neighborhoods that are organized around pedestrian oriented and mixed use centers. Following its adoption in 2011, the *Places29* Master Plan became a component of the Land Use section of the Comprehensive Plan.

Rivanna Station is almost entirely located in the Piney Mountain Development Area. A small strip along the North Fork Rivanna River is in Rural Area 2. As shown on **Figure 3-3**, the Piney Mountain Development Area is bounded by the North Fork Rivanna River to the south, by Dickerson Road to the west, and by smaller streams to the east and north. The Piney Mountain Development Area consists of a total of 607 acres and had a population of less than 1,000 in 2009.[1] Split by Route 29, the Piney Mountain Development Area is comprised of residential developments (Briarwood, Camelot and Riverwood) and research facilities (GE Intelligent Platforms) to the west and light industrial uses (including Rivanna Station) and vacant (undeveloped and forested) land, to the east.

Per the *Places29* Master Plan shown as **Figure 3-4**, Rivanna Station is designated for Office/Research & Development (R&D)/Flex/Light Industrial uses.

> Office/Research & Development (R & D)/Flex/Light Industrial. This designation allows a range of employment-generating uses and is applied to the majority of the nonretail employment areas within the Places29 area to create Employment Neighborhoods. These uses are the "new" types of industrial uses that are more employee-intensive and may be less involved with manufacturing. As such, these uses are expected to have the fewest impacts on surrounding uses (e.g., noise, vibrations, odors), although they may have a greater traffic impact due to the number of employees. The designation is used in the areas around Centers.[2]

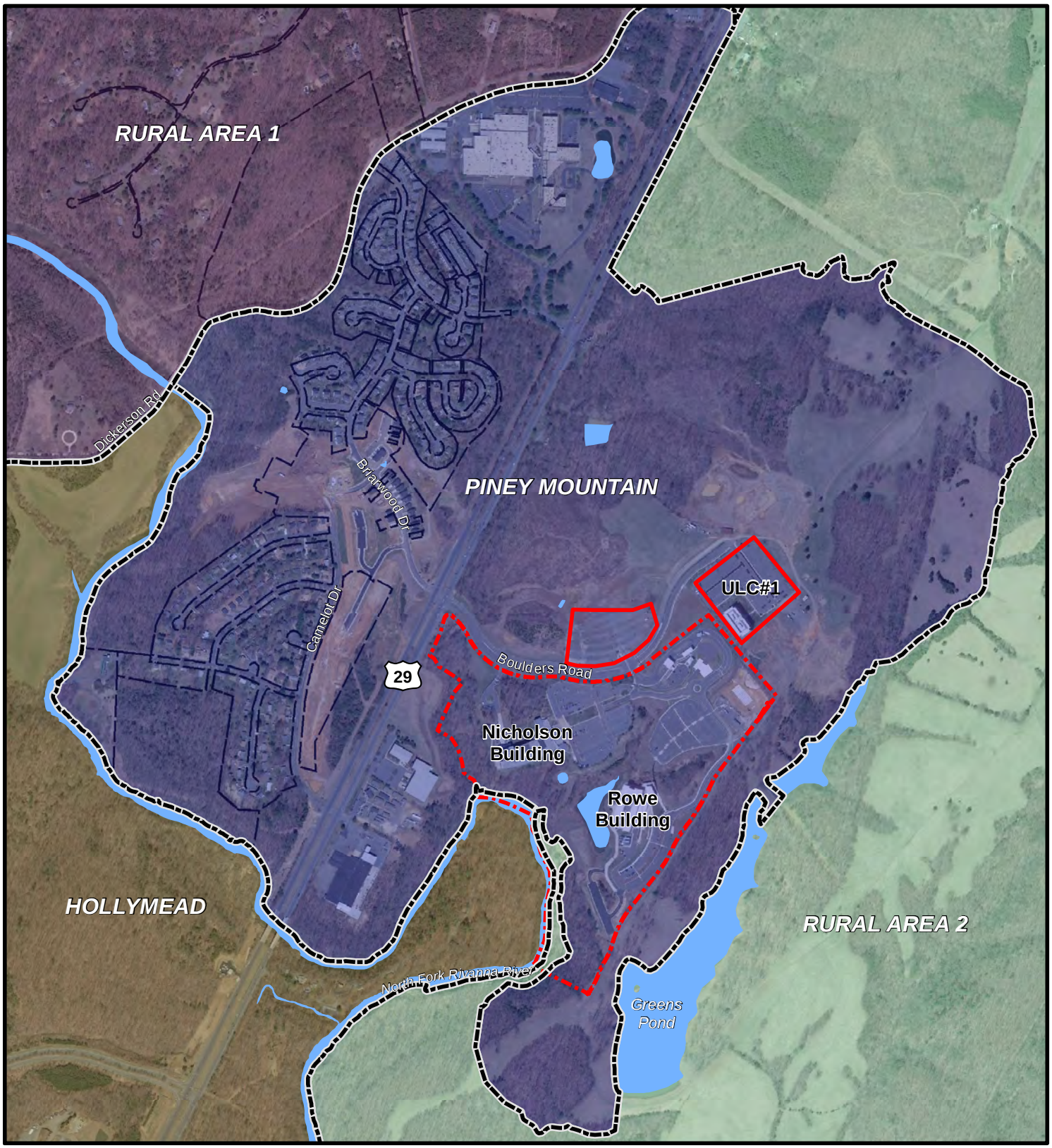
Surrounding use designations on adjoining properties include residential Neighborhood Density to the south and east of the campus and Office/R&D/Flex/Light Industrial on sites to the north and west of the campus. Further north, land use is designated Urban Density. An urban mixed use center is identified as part of a Neighborhood Service Center along the proposed extension of Boulders Road where Office/R&D/Flex/Light Industrial land uses transition into Urban Density uses.

The *Places29* plan includes a Parks and Green Systems Map that identifies open spaces and trails within the Piney Mountain community, as shown on **Figure 3-5**. The map depicts a proposed multi-use path on Route 29 terminating at the future Boulders Road connection, proposed bike lanes along the completed Boulders Road, and proposed trails around Rivanna Station.

3.2.1.3 Zoning

Albemarle County maintains zoning authority to ensure that new development is consistent with the Zoning Ordinance, part of the County Code. According to the zoning ordinance, "development is to be encouraged in Villages, Communities and the Urban Area; where services and utilities are available and where such development will not conflict with the agricultural/forestal or other rural objectives; and development is not to be encouraged in the Rural Areas which are to be devoted to preservation of

[1] Albemarle County, *Places29*: A Master Plan for the Northern Development Areas, February 2, 2011, pp.3-1, 3-5.
[2] Albemarle County, *Places29*: A Master Plan for the Northern Development Areas, February 2, 2011, p. 4-5.



Legend

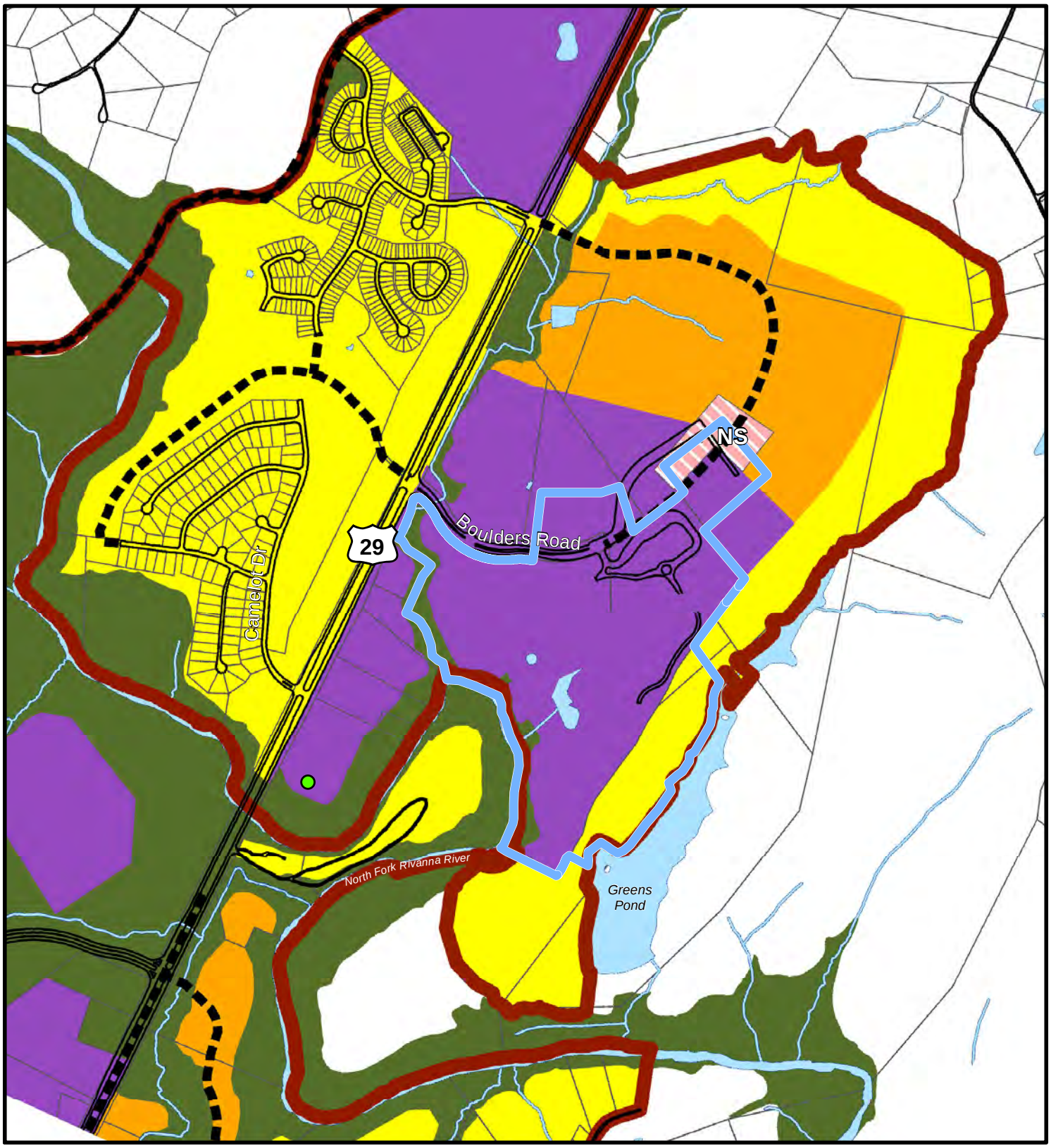
- Albemarle County Comprehensive Plan Area
- Station Boundary
- Leased Facilities
- Station Fenceline
- Subdivisions
- Water

Figure 3-3
Albemarle County Comprehensive Plan Areas

N

0 250 500 1,000 Feet

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13, Albemarle County GIS
Prepared on 02/03/15



Legend

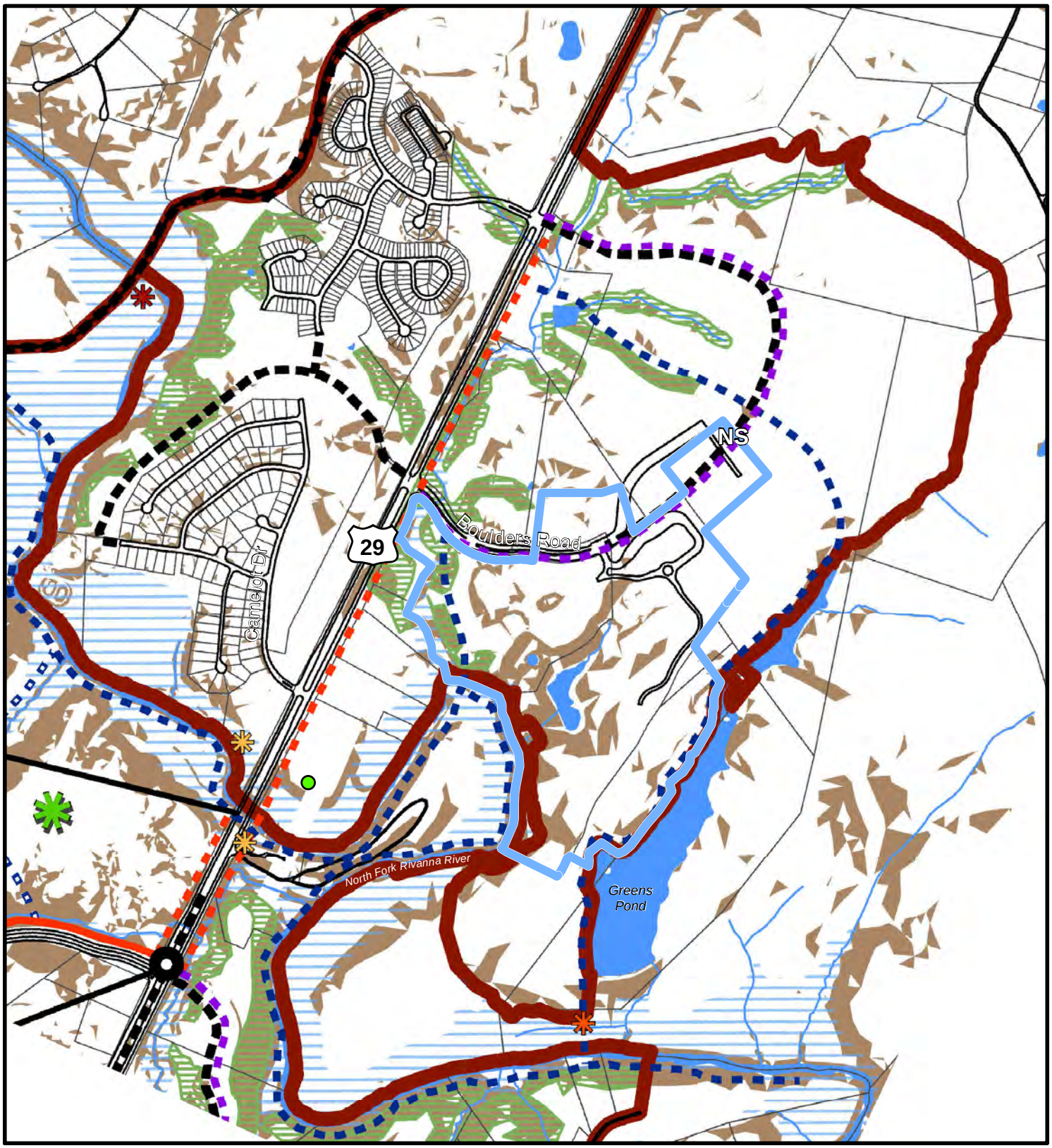
- General Study Area
- Development Area Boundary
- Airport District
- Urban Mixed Use (in Centers)
- Urban Mixed Use (in areas around Centers)
- Commercial Mixed Use
- Urban Density
- Neighborhood Density
- Office/R&D/Flex/Light Industrial
- Light Industrial
- Heavy Industrial
- Institutional
- Public Open Space
- Privately Owned Open Space
- Proposed Roadway Network
- NS Neighborhood Service Center

Figure 3-4
Future Land Use

N

0 250 500 1,000 Feet

Source: Source: Places 29, Future Land Use Map NORTH, Prepared on 02/12/15



Legend

- General Study Area
- Proposed Roadway Network
- Possible Additions to Roadway Network
- Potential Connections
- Parks and Public Open Space
- 100 Year Floodplain
- Critical Slopes > 25%
- Places29 Recommended Greenway Buffer
- Development Area Boundary
- Proposed Bike Lane
- Proposed Trail
- Proposed Multi-Use Path
- Future Civic Space
- Major Public Access Point
- Minor Public Access Point
- Neighborhood Public Access Point
- Crossing

Figure 3-5
Parks and Green Systems

N

0 250 500 1,000 Feet

Source: Places 29, Parks and Green Systems Map NORTH, Prepared on 02/12/15

agricultural and forestal lands and activities, water supply protection, and conservation of natural, scenic and historic resources and where only limited delivery of public services is intended."[3]

Albemarle County Zoning Ordinance

Albemarle County adopted its first zoning ordinance in 1969. As shown on **Figure 3-6**, the majority of land in the immediate vicinity of Rivanna Station is presently designated as a Rural Areas zoning district. It is common for this zoning designation to be used as an interim designation until such time as a development project is ready to proceed. Other principal zoning designations in the vicinity of Rivanna Station include the following:

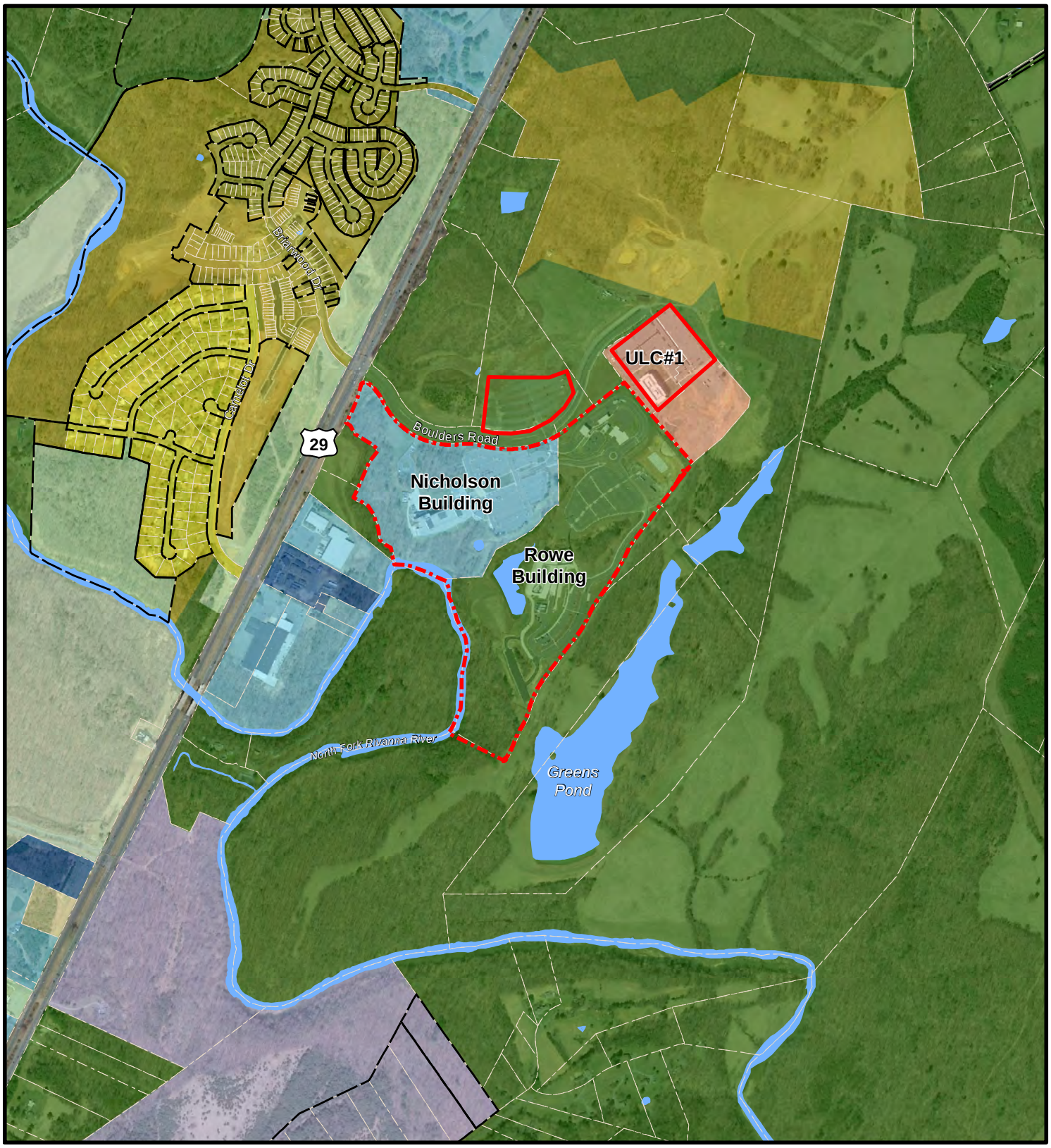
The ULC #1 (and Phase 2 and 3) development to the northeast of Rivanna Station is zoned Commercial Office. The Phase 1 office building is the only developed building on the site at this time. The land that lies immediately to the west of Rivanna Station is zoned Light Industry and Heavy Industry and is presently developed with such uses. A long strip of land on the opposite side of Route 29 is zoned C1 Commercial but is currently undeveloped. A large tract of land located north of the ULC #1 site is zoned Planned Residential Development. A variety of residential densities and development types can be constructed in this zone as well as some community uses. The Camelot and Briarwood subdivisions as well as land beyond the existing limits of those subdivisions is zoned Neighborhood Model District, which permits lower density residential development. The majority of the tracts of land east of Route 29 and south of the North Fork Rivanna River are zoned Planned Development Mixed Commercial, which allows a variety of commercial development densities and uses.

Zoning Overlay Districts

Overlay districts generally impose special regulations within certain areas, which are applied in addition to the regulations of the underlying district. Albemarle County has adopted multiple overlay districts, including an Airport Impact Area (AIA), Flood Hazard, Natural Resource Extraction, Scenic Streams, Entrance Corridor, and Steep Slopes Overlay Districts. The AIA, Entrance Corridor, and Steep Slopes Overlay Districts apply to Rivanna Station or to land immediately surrounding it, as shown in **Figure 3-7**.

The AIA Overlay District was created to minimize the creation of physical, visual and other obstructions surrounding the Charlottesville-Albemarle Airport and to minimize adverse noise impacts in the airport vicinity.[4] The Charlottesville-Albemarle Airport is located to the south of Rivanna Station on the west side of Route 29, approximately 1.3 miles away. The AIA Overlay District is comprised of three distinct areas (airport protection area, runway protection zones, and an AIA noise impact area). Rivanna Station is within the airport protection area. According to the Albemarle County Code, "No building, structure, object of natural growth, or use shall be permitted which shall penetrate the airport protection area".[5] In the vicinity of Rivanna Station, the airport protection area is at approximately 790 feet above mean

[3] Albemarle County Code, Chapter 18- §1.6 Relation to Comprehensive Plan.
[4] Albemarle County Code, Chapter 18 §30.2 Airport Impact Area Overlay District – AIA.
[5] Albemarle County Code, Chapter 18 §30.2.4 Permitted Uses.



Legend

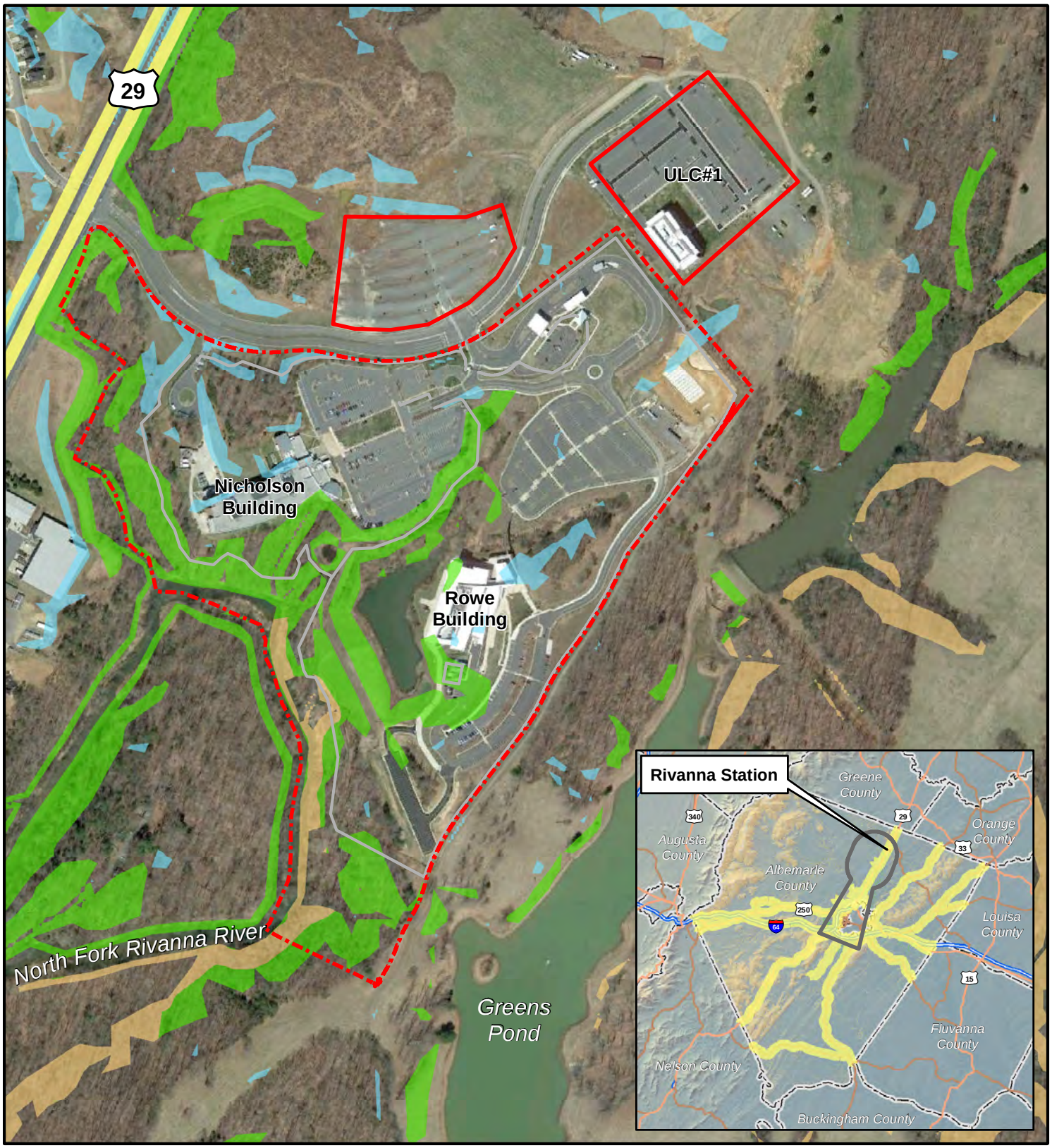
- Station Boundary
- Leased Facilities
- Station Fenceline
- Parcel Boundary
- C1 Commercial
- Commercial Office
- Heavy Industry
- Light Industry
- Planned Development Industrial Park
- Planned Development Mixed Commercial
- Planned Residential Development
- R1 Residential
- R4 Residential
- Rural Areas
- Subdivisions

Figure 3-6
Albemarle County Zoning

N

0 250 500 1,000 Feet

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Albemarle County GIS
Prepared on 02/03/15



Legend

- Station Boundary
- Leased Facilities
- Airport Impact Area
- Entrance Corridor
- Existing Fenceline
- County Boundary

Steep Slopes Overlay District

- Critical Slopes
- Steep Slopes - Managed
- Steep Slopes - Preserved

Figure 3-7
Albemarle County Zoning Overlay Districts

N

0 125 250 500 Feet

Sources: USGS, Albemarle County GIS
Prepared on 02/03/15

sea level (msl). The highest point on Rivanna Station is approximately 515 feet above msl. Therefore, buildings, antennas etc. at Rivanna Station cannot be more than 275 feet tall.

The Entrance Corridor Overlay District addresses arterial streets and highways that have been found to be significant routes of tourist access to Albemarle County as well as to historic landmarks, structures or districts within or surrounding the county. Both buildings and signs on parcels contiguous to those roads must be architecturally compatible with those historic landmarks or structures.[6] Route 29 is within the Entrance Corridor Overlay District.

The Steep Slopes Overlay District addresses lands within development areas which have steep slopes. The district requires additional development design care and consideration to be given in order for development to occur. The ordinance identifies and characterizes both managed and preserved steep slopes and identifies design standards for various development scenarios.

3.2.1.4 Coastal Zone Management

The Coastal Zone Management Act (CZMA) of 1972 (16 USC § 1451, et seq., as amended) was passed by Congress in 1972 to provide assistance to states, in cooperation with federal and local agencies, for the management of the nation's coastal resources. In Virginia, federal actions are subject to the requirements of the Virginia Coastal Zone Management Program (CZM Program). The mission of the CZM Program is to create more vital and sustainable coastal communities and ecosystems. Federal activities in Virginia's Coastal Zone must be consistent to the maximum extent practicable with the CZM Program. Rivanna Station is not within a Coastal Management Zone, and as such, the CZM Program is not applicable.

3.2.2 Threshold of Significance

The threshold of significance for land use/zoning impacts would be exceeded if the alternative would result in substantial alteration of the present/planned land use or zoning in the area.

3.2.3 Environmental Consequences of the Alternatives on Land Use and Zoning

3.2.3.1 No Action Alternative

The No Action Alternative would maintain the existing boundaries of Rivanna Station and no additional land would be acquired. The use of off-site parking and warehouse facilities would continue. Mission requirements currently housed in off-site leased space in ULC #1 would remain in that location. The existing Rivanna Station is consistent with existing and future land use planning documents in Albemarle County.

[6] Albemarle County Code, Chapter 18 §30.6 Entrance Corridor Overlay District – EC.

3.2.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

With Alternative A, all proposed development is within the existing property boundary. Rivanna Station is designated for Office/R&D/Flex uses in the Albemarle County Land Use Plan. Therefore, Alternative A would be compatible with local land use planning. Alternative A would also conform to the local zoning Overlay Districts regulations to the extent possible:

- AIA - Neither the proposed communication tower nor buildings would exceed 275 feet in height.
- Entrance Corridor - Similar to the existing development, there would be limited visibility of the proposed development from Route 29. In addition, as with the existing development, the proposed development would be designed to blend into the natural environment and conserve natural terrain, plants and ecosystems where possible.
- Steep Slopes - As shown on **Figure 3-8,** with the exception of the proposed fence, the development is outside of the areas designated as preserved steep slopes. However, while the proposed Joint Use Training Facility will be sited to avoid preserved steep slopes to the extent possible, some grading in these areas may be required.

3.2.3.3 Alternative B – Southeast Station Expansion Alternative

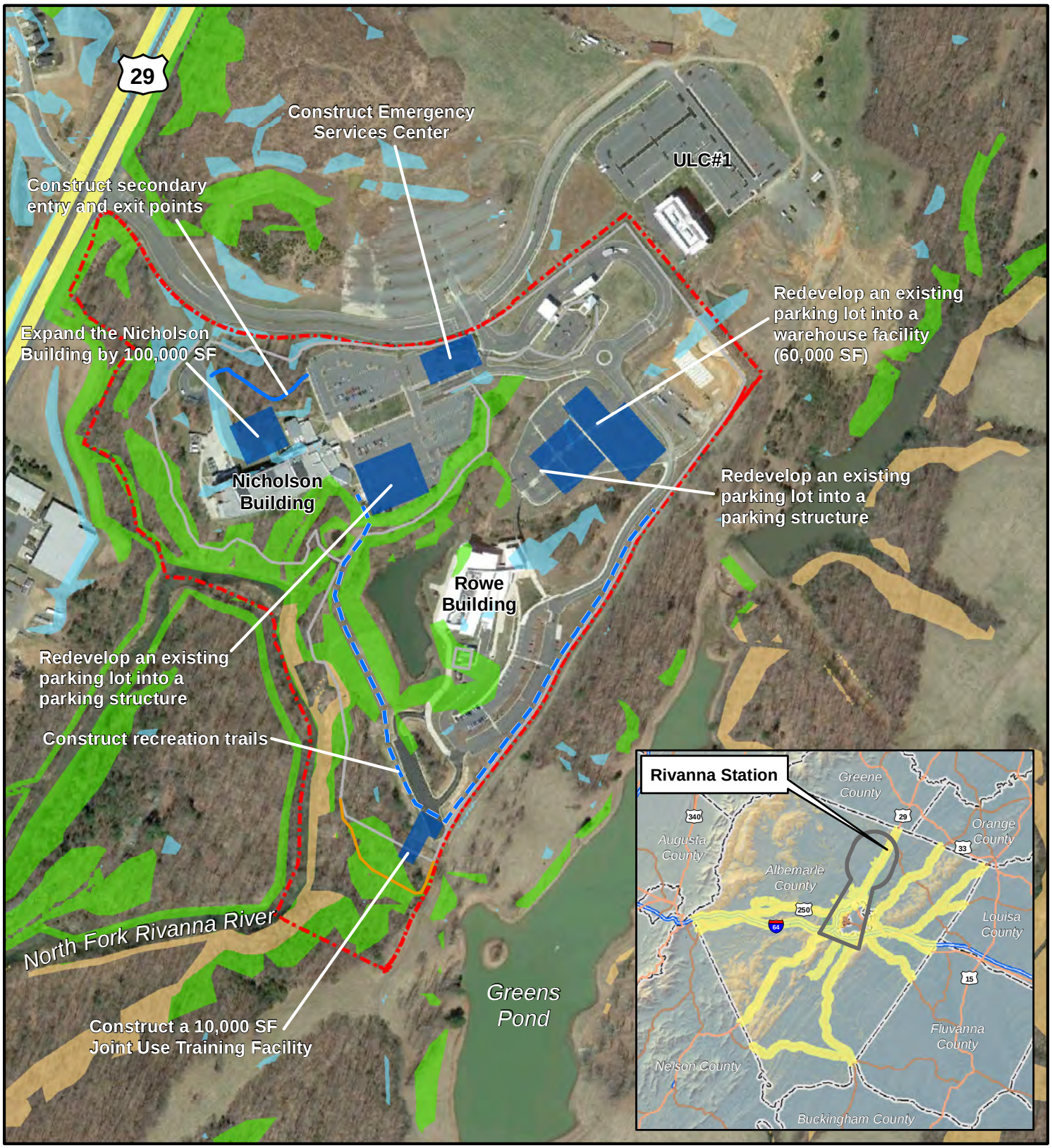
Alternative B would expand the existing Station boundary to the southeast to include a 14 acre site between the Rowe Building and Greens Pond. The 14 acre site is within the Piney Mountain Development Area boundary in the County's current draft Comprehensive Plan. The site has been identified as an area appropriate for Neighborhood Density Residential use and is zoned as a Rural Area. Both the *Places29* Parks and Green Systems Map show a future trail on the 14 acre site.

As part of the scoping process, Albemarle County indicated that they have considered designating the 14 acre parcel area for Office/Research & Development (R&D)/Flex/Light Industrial use.[7] However, the County indicated concern that an "island" of land designated as Low Density Residential would remain for which access would need to be provided.

Given the County's concern regarding access and the requirement for a buffer along Greens Pond, the Station's boundary fence would be located 155 feet from the edge of Greens Pond. This would allow for a 55-foot wide road easement and a 100 foot buffer in accordance with the Albemarle County Code Chapter 17 Article VI Stream Buffers. No less than 100 feet wide buffer from Greens Pond must be retained and managed in as natural condition as possible. The trail shown on the *Places29* Parks and Green Systems Map could be placed within the road easement.

Therefore, although an amendment to the Comprehensive Plan Future Land Use Map would be required, it is presumed that the alternative would be consistent with local planning criteria.

[7] County of Albemarle, correspondence to K. Royce Bassarab, December 18, 2014.



Legend

- Station Boundary
- Airport Impact Area
- Approximate Expansion Area
- Entrance Corridor
- County Boundary
- Recreation Trail
- Ingress / Egress
- Existing Fencline
- Proposed Fenceline

Steep Slopes Overlay District

- Critical Slopes
- Steep Slopes - Managed
- Steep Slopes - Preserved

Figure 3-8
Alternative A
Albemarle County Zoning Overlay Districts

N

0 125 250 500 Feet

Sources: USGS, Albemarle County GIS
Prepared on 03/18/15

Alternative B would also conform to the local zoning Overlay Districts regulations to the extent possible:

- AIA - Neither the proposed communication tower nor buildings would exceed 275 feet in height.
- Entrance Corridor - Similar to the existing development, there would be limited visibility of the proposed development from Route 29. In addition, as with the existing development, the proposed development would be designed to blend into the natural environment and conserve natural terrain, plants and ecosystems where possible.
- Steep Slopes - As shown on **Figure 3-9,** with the exception of the proposed fence, the development is outside of the areas designated as preserved steep slopes. However, while the proposed Joint Use Training Facility will be sited to avoid preserved steep slopes to the extent possible, some grading in these areas may be required.

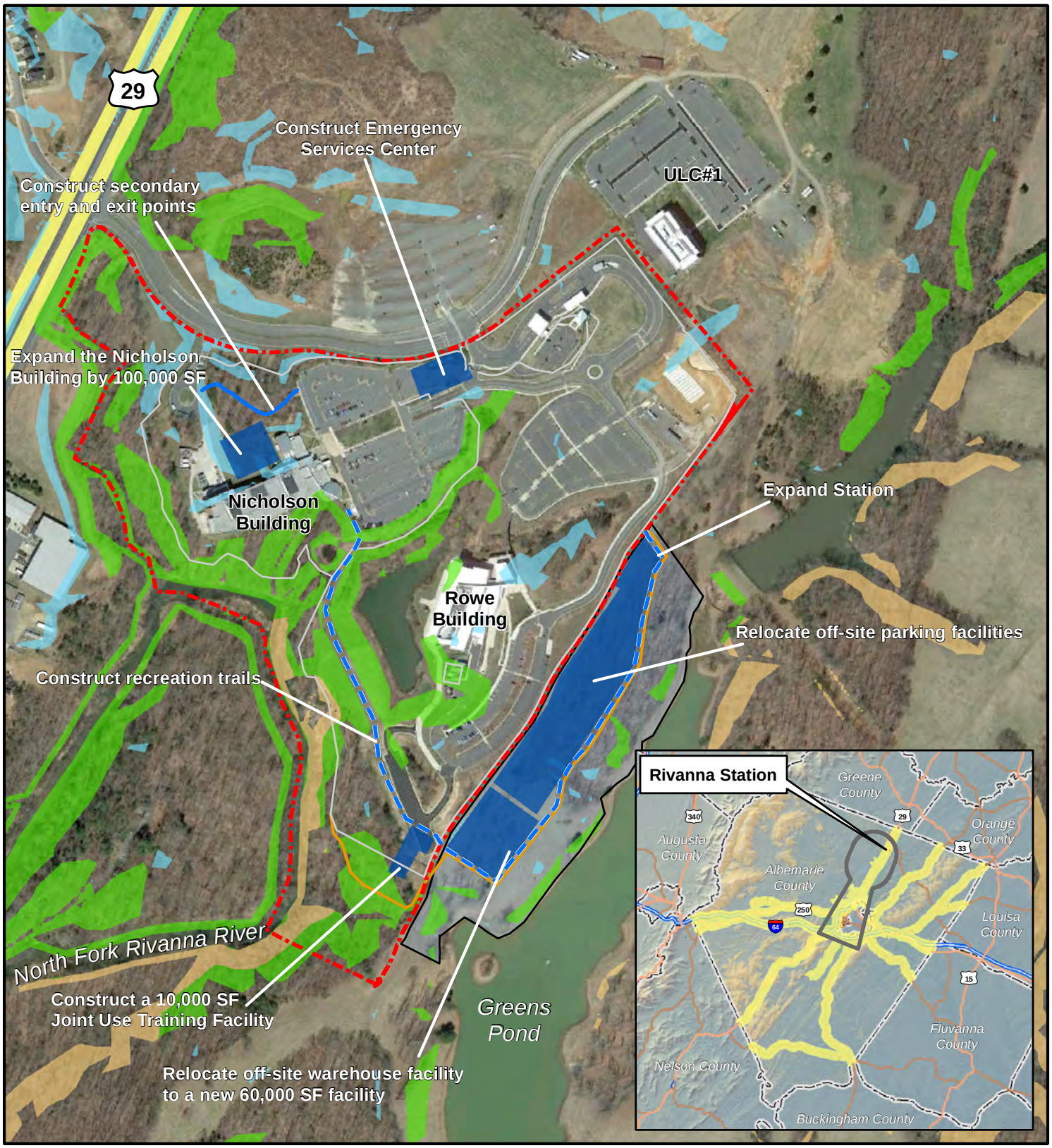
3.3 Air Quality

Air quality is governed by the federal Clean Air Act of 1970 (CAA). In accordance with the CAA, the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) to define outdoor levels of air pollutants that are considered safe for public health, welfare, and the environment. The EPA established NAAQS for outdoor concentrations of "criteria" pollutants, including: carbon monoxide (CO), nitrogen dioxide (NO_2), 8-hour ozone (O_3), sulfur dioxide (SO_2), lead (Pb) and particulate matter (PM) with aerodynamic diameters of 10 or 2.5 microns and less ($PM_{10/2.5}$).

Under the CAA, states as well as the District of Columbia must identify geographic regions that do not meet the NAAQS for each criteria pollutant. Regions are designated as "attainment" or "nonattainment" for the criteria pollutants depending on whether local air quality is in compliance or not in compliance, respectively with the NAAQS. For any nonattainment designation, a State Implementation Plan (SIP) must be developed to demonstrate future attainment of the applicable NAAQS.

An area previously designated as nonattainment pursuant to the CAA Amendments of 1990, and subsequently redesignated as attainment, is termed a maintenance area. A maintenance area must have a maintenance plan in a revision to the SIP to ensure attainment of the air quality standards is maintained. For proposed federal actions in non-attainment areas and maintenance areas, the project proponent must demonstrate that the project conforms to the appropriate SIP. The General Conformity Rule of the federal CAA prohibits federal agencies from permitting or funding projects that do not conform to an applicable SIP. The General Conformity Rule applies only to nonattainment or maintenance areas. Under the Transportation Conformity Rule, federally funded roadway projects of regional significance are shown to conform to the SIP by inclusion in the Transportation Improvement Plan (TIP).

Changes in mobile source and stationary source emissions could result in changes in air quality. Mobile sources are defined as any non-stationary sources of air emissions such as cars and trucks. Changes in mobile sources including vehicular and maintenance activities may result in changes to emissions of VOCs and NO_x (precursors for Ozone), $PM_{2.5}$ and CO. Construction activities could also influence concentrations for these NAAQS.



Legend

- Station Boundary
- Airport Impact Area
- Approximate Expansion Area
- Entrance Corridor
- County Boundary
- Recreation Trail
- Ingress / Egress
- Existing Fencline
- Proposed Fenceline

Steep Slopes Overlay District

- Critical Slopes
- Steep Slopes - Managed
- Steep Slopes - Preserved

N

0 125 250 500 Feet

Figure 3-9
Alternative B
Albemarle County Zoning Overlay Districts

Sources: USGS, Albemarle County GIS
Prepared on 03/18/15

Stationary sources are defined as any fixed building or facility that emits air pollutants. New stationary sources such as generators could increase emissions of VOCs and NO_x (precursors for Ozone), $PM_{2.5}$ and CO.

3.3.1 Affected Environment

Rivanna Station is in Albemarle County, which is within the Northeastern Virginia Intrastate Air Quality Control Region (AQCR). Federal regulations designate the Northeastern Virginia Intrastate AQCR as an attainment area for all criteria pollutants and therefore air conformity regulations do not apply and a Record of Non-Applicability is not required.[8]

3.3.2 Existing Facility Stationary Sources

Rivanna Station includes a number of stationary sources of air emissions. Rivanna Station received a Stationary Source Permit from the Commonwealth of Virginia Department of Environmental Quality (VDEQ) to modify and operate Rivanna Station in accordance with the provisions of the Virginia Regulations for the Control and Abatement of Air Pollution in September 2011. The Nicholson Building includes a document disintegrator and two diesel-fired emergency generators, rated 1,600 kilowatt (KW) capacity, and two additional emergency generators that are subject to state permitting. Rivanna Station also includes two natural gas boilers and three natural gas water heaters. The Rowe Building includes two diesel-fired emergency generators rated at 1,750 KW, two natural gas boilers, four water heaters, and two additional emergency generators. In summary, the emergency generators are required to comply with certain federal emission standards and operating limitations (40 CFR 60 New Source Performance Standards (NSPS) and 40 CFR 63 Maximum Achievable Control Technology (MACT)) over their useful life.

3.3.3 Greenhouse Gases and Climate Change

Greenhouse gases (GHGs) are gases such as carbon monoxide, methane, nitrous oxide and hydrofluorocarbons that trap heat in the atmosphere. The recent rise in global average temperature near the Earth's surface is caused mostly by increasing concentrations of GHGs in the atmosphere.[9] Climate change includes not only these changes in temperature but also other effects such as changes in precipitation and wind patterns over an extended period of time. "The historical record shows that the climate system varies naturally over a wide range of time scales. In general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in greenhouse gas (GHG) concentrations. Recent climate changes, however, cannot be explained by natural causes alone. Research indicates that natural causes are very unlikely to explain most observed warming, especially warming since the mid-20th century. Rather, human activities can very likely explain most of that warming." [10]

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[8] 40 CFR Part 81 Designation of Areas for Air Quality Planning Purposes, §347.
[9] US EPA, Climate change is happening, http://www.epa.gov/climatechange/basics/, Accessed 3/31/15.
[10] US EPA, Causes of Climate Change, http://www.epa.gov/climatechange/science/causes.html, Accessed 3/31/15.

"The largest source of greenhouse gas emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation."[11] In 2012, commercial and residential sources contributed to approximately ten percent of the GHG emissions in the US.[12] Commercial businesses contribute to GHG emissions as a result of combusting of natural gas and petroleum products for heating, sending organic waste to landfills, consuming potable water and generating wastewater that is treated at waste water plants, and accidently releasing fluorinated gases used in air conditioning and refrigeration systems.

Executive Order (EO) –*Planning for Federal Sustainability in the Next Decade*, released on March 19, 2015, calls for federal agencies to reduce direct GHG emissions by at least 40 percent over the next decade. The EO includes sustainability goals to achieve this reduction. Examples of these goals include: promoting building energy conservation and efficiency, designing new construction to achieve energy net-zero where the annual energy consumption is balanced by on-site renewable energy, reducing use of potable water and diverting at least 50 percent of waste from landfills.[13]

CEQ issued draft guidance for federal agencies regarding how GHG emissions and climate change should be addressed in NEPA reviews. "In addressing GHG emissions, agencies should be guided by the principle that the extent of the analysis should be commensurate with the quantity of projected GHG emissions."[14] CEQ provides a reference point below which quantification of GHG emissions is not warranted. The reference point is 25,000 metric tons of CO_2 equivalent (CO_2e) emissions.[15] CO_2e is a term used to describe GHGs in a common unit (CO_2 = 1 CO_2e), based on their global warming potential (GWP). The GWP of a gas is the amount of warming it causes over a given period of time when compared to CO_2, with CO_2e signifying the amount of CO_2 which would have the equivalent GWP.[16] For example, Nitrous Oxide has a global warming potential of 298 times that of CO_2, or 298 CO_2e.[17]

3.3.4 Threshold of Significance

The threshold of significance for air quality impacts would be exceeded if the alternative would result in an increase in criteria pollutant emissions (stationary and mobile) such that the federal major source threshold of 100 ton per year would be exceeded. Also, the threshold of significance would be exceeded if the alternative would generate substantial GHG emissions (>25,000 metric tons CO_2e annually).

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[11] US EPA, Sources of Greenhouse Gas Emissions, http://www.epa.gov/climatechange/ghgemissions/sources.html, Accessed 3/31/15.
[12] US EPA, Sources of Greenhouse Gas Emissions, http://www.epa.gov/climatechange/ghgemissions/sources.html, Accessed 3/31/15.
[13] Executive Order -- Planning for Federal Sustainability in the Next Decade, March 19, 2015.
[14] CEQ, Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and Climate Change in NEPA Reviews, December 2014, p. 10.
[15] CEQ, Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and Climate Change in NEPA Reviews, December 2014, p. 18.
[16] EPA, Glossary of Climate Change Terms, http://www.epa.gov/climatechange/glossary.html#N2O, Accessed 3/31/15.
[17] EPA, Glossary of Climate Change Terms, http://www.epa.gov/climatechange/glossary.html#N2O, Accessed 3/31/15.

3.3.5 Environmental Consequences of the Alternatives on Air Quality

3.3.5.1 No Action Alternative

The No Action Alternative would not cause a change in air emissions and therefore would not affect air quality.

3.3.5.2 Alternative A – On-Site Redevelopment – Preferred Alternative

Alternative A would result in only minor changes in vehicular emissions because there are no anticipated mission changes or additional missions that would result in large increases in personnel in the foreseeable future. The number of employees would remain approximately the same with only minor fluctuations due to changes in contingency staffing.

Alternative A would result in stationary source and construction emissions. Based on analysis of similar development at Rivanna Station these emissions would be below the federal major source threshold of 100 tons per year (tpy). The Army completed an EA in 2008 for the expansion of Rivanna Station including construction of the Rowe Building. **Table 3.1** shows the emissions calculated for development assessed in the 2008 EA. **Table 3.2** shows a comparison of the development assessed in the 2008 EA and the proposed development with Alternative A. The increase in building space is less with Alternative A than with the development assessed in the 2008 EA. The parking spaces within parking structures with Alternative A would be approximately twice the number as assessed in the 2008 EA. Even if the emissions in Table 3.1 were doubled to account for the additional parking structure development, the emissions would be far below the threshold of 100 tpy.

Alternative A would also likely increase GHG emissions primarily due to the heating and cooling of additional building spaces. Given the relatively small size of and number of employees at Rivanna Station, the increase would be far below the reference point of 25,000 metric tons of CO_2e emissions. For example, Fort Belvoir, with an area of approximately 8,500 acres and a workforce of approximately 40,000 employees, reported 24,356 metric tons of CO_2e emissions in 2013.[18,19]

Table 3.1
2008 EA Emissions
(tons per year)

	NO_x	CO	VOC	PM_{10}	$PM_{2.5}$	SO_x
Stationary Sources (Boilers and Generators and Document Destructor)	4.2	0.4	0.0	1.8	0.0	0.0
Construction Emissions	18.0	24.0	9.1	2.3	1.4	0.0
Total	**22.2**	**24.4**	**9.1**	**4.1**	**1.4**	**0.0**

Source: Department of the Army, Environmental Assessment Expansion of Rivanna Station Charlottesville, Virginia, March 2008, Appendix A.

[18] US Army Garrison Fort Belvoir, Fort Belvoir Real Property Master Plan and Short-Term Projects, Draft Environmental Impact Statement, August 2014, pp. ES-2, 1-1.
[19] EPA, 2013 Greenhouse Gas Emissions from Large Facilities, http://ghgdata.epa.gov/ghgp/main.do, Accessed 3/30/15.

Table 3.2
Comparison of 2008 EA Development and Alternative A

	2008 EA	Alternative A
Increased Building Space	(square feet)	(square feet)
Nicholson Building Expansion	75,000	100,000
Rowe Building	170,502	0
Visitors Control Center	1,200	0
Remote Distribution Facility /Warehouse	20,000	60,000
Joint Use Training Facility	0	10,000
Emergency Services Center	0	25,000
Total	**266,702**	**195,000**
Increased Parking		
Garage	260 spaces	550-600 spaces
Surface	(square feet)	(square feet)
Rowe Building	230,000	0
Visitors Control Center	40,000	0
Total	**270,000**	**0**

Source: Department of the Army, Environmental Assessment Expansion of Rivanna Station Charlottesville, Virginia, March 2008.

Air quality permitting requirements may apply to proposed new stationary sources including generators. Rivanna Station is in an attainment area and new stationary sources would not be expected to emit more than 100 tpy of a criteria pollutant. Therefore, it is presumed that Rivanna Station could revise its existing permit to include any new stationary sources such as generators. New Source Performance Standards and Maximum Achievable Control Technology may apply. New Source Performance Standards under Section 111 of the CAA limit criteria pollutants from certain stationary sources. Under Section 112 of the CAA, National Emission Standard for Hazardous Air Pollutants, standards are established by using Maximum Achievable Control Technology to limit hazardous air pollutants from certain stationary sources. Early in the design process, the Fort Belvoir Environmental and Natural Resources Division (ENRD) will review proposed new stationary sources to identify and obtain required permits.

All proposed development would be undertaken in compliance with applicable state and federal standards for air quality. Also, sustainability measures would minimize the increases associated with new stationary sources. Per Army requirements, new construction must be built to a standard capable of achieving a U.S. Green Building Council LEED New Construction Silver rating. To meet this requirement, any new facilities will include features to conserve energy. Sustainable building technologies such as high-efficiency HVAC systems would be employed to reduce energy consumption and reduce emissions. Best management practices could minimize construction emissions resulting from Alternative A. For instance, low emission construction techniques such as eliminating unnecessary equipment idling could be implemented.

Recognizing that all applicable state and federal standards would be observed, it is not anticipated that the aforementioned potential changes in emissions, taken together, would approach the threshold of significance of 100 tpy.

3.3.5.3 Alternative B – Southeast Station Expansion Alternative

Like Alternative A, Alternative B would result in only minor changes in vehicular emissions because there are no anticipated mission changes or additional missions that would result in large increases in personnel in the foreseeable future.

Alternative B would also result in stationary source and construction emissions. Based on analysis of similar development at Rivanna Station these emissions would be below the federal major source threshold of 100 tpy. As shown in **Table 3.3,** the increase in building space would be less with Alternative B than with the development assessed in the 2008 EA. Also, the surface parking area with Alternative B would be less than that assessed in the 2008 EA. Therefore, stationary and construction emissions would be lower than those identified in the 2008 EA, and far below the threshold of 100 tpy.

Table 3.3
Comparison of 2008 EA Development and Alternative B

	2008 EA	**Alternative B**
Increased Building Space	(square feet)	(square feet)
Nicholson Building Expansion	75,000	100,000
Rowe Building	170,502	0
Visitors Control Center	1,200	0
Remote Distribution Facility /Warehouse	20,000	60,000
Joint Use Training Facility	0	10,000
Emergency Services Center	0	25,000
Total	**266,702**	**195,000**
Increased Parking		
Garage	260 spaces	0 spaces
Surface	(square feet)	(square feet)
Rowe Building	230,000	0
Visitors Control Center	40,000	0
14 acre parcel	0	162,00
Total	**270,000**	**162,000**

Source: Department of the Army, Environmental Assessment Expansion of Rivanna Station Charlottesville, Virginia, March 2008.

Alternative B would also likely increase GHG emissions primarily due to the heating and cooling of additional building spaces. However as with Alternative A, the increase would be far below the reference point of 25,000 metric tons of CO_2e emissions.

All proposed development would be undertaken in compliance with applicable state and federal standards for air quality. As with Alternative A, it is presumed that Rivanna Station could revise its existing permit to include any new stationary sources such as generators. Also, sustainability measures would minimize the increases associated with new stationary sources.

Recognizing that all applicable state and federal standards would be observed, it is not anticipated that the aforementioned potential changes in emissions, taken together, would approach the threshold of significance of 100 tpy.

3.4 Noise

The Noise Control Act of 1972 (PL 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. The Albemarle County Code (Chapters 7 and 18) sets forth the regulations guiding the noise environment. The code states that it shall be unlawful for any person to produce sound that causes at least a fifteen 15 decibel (dBA) increase in the sound level above the ambient sound level.[22] The general regulations of Chapter 18, which discusses zoning, also prescribes maximum sound levels in receiving zones from sounds that originate from a source. In rural areas and residential zones, the maximum noise levels during the daytime and nighttime are 60 dBA and 55 dBA, respectively. Surrounding commercial and industrial zones include higher levels, commercial limits are 65 dBA and industrial limits are 70 dBA.[23] Construction noise is exempt from the ordinance between 7:00 a.m. and 10:00 p.m.

3.4.1 Affected Environment

Sources of noise at Rivanna Station typically include transient noises from nearby transportation-related sources, such as vehicular traffic traversing Route 29 and Boulders Road, and the various parking areas within and surrounding the campus. Other noise includes air traffic associated with the Charlottesville-Albemarle Airport and various ongoing construction activities on the Station.

3.4.2 Threshold of Significance

An increase in noise levels would be considered significant if the alternative would cause a substantial permanent increase in noise at a noise-sensitive land use such as a residence or school.

3.4.3 Environmental Consequences of the Alternatives on Noise

3.4.3.1 No Action Alternative

The No Action Alternative would not change noise at or around Rivanna Station.

3.4.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

With the implementation of Alternative A, short-term increases in noise levels could occur during construction activities. Construction-related noise would vary daily depending on the type and location of construction activity. The noise could result from blasting of bedrock and use of heavy machinery and equipment for building, parking and road construction. Typical noise levels for construction vehicles and equipment are listed in **Table 3.4**.

[22] Albemarle County Code, Chapter 7 §7-104 General prohibition,
[23] Albemarle County Code, Chapter 18, §4.18. 4 Maximum Sound Levels.

Table 3.4

Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 feet from Source	Equipment	Typical Noise Level (dBA) 50 feet from Source
Air Compressor	81	Pile Driver (Impact)	101
Backhoe	80	Pile Driver (Sonic)	96
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	76
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	98
Concrete Pump	82	Roller	74
Concrete Vibrator	76	Saw	76
Crane Derrick	88	Scarifier	83
Crane Mobile	83	Scraper	89
Dozer	85	Shovel	82
Generator	81	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Inserter	85
Loader	85	Truck	88
Paver	89		

Source: FHWA Construction Noise Handbook, 7/5/2011, http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

Distance would rapidly attenuate these noise levels. The nearest construction activity to existing residences would be related to the new recreational trail and the 10,000 square foot Joint Use Training Facility. These facilities would be located over 500 feet from the nearest residence located on the opposite side of the North Fork Rivanna River. Blasting for the Nicholson Building Extension would be over 1,000 feet from existing residences. Therefore, given the distance to the construction, and the minimal construction activity required to construct a recreational trail and the relatively small Joint Use Training Facility, the increase in noise due to construction would be minor.

Permanent noise increases within the Station would be expected with Alternative A. Noise would increase due to changes in vehicular circulation as a result of redeveloping a portion of the existing parking lots into parking structures and a warehouse facility. However, due to the distance to residential land use and the presence of tree buffers, this increase would be unlikely to cause a substantial increase in noise to noise sensitive land uses.

3.4.3.3 Alternative B – Southeast Station Expansion Alternative

As with Alternative A, short-term increases in noise levels could occur during construction of Alternative B. Construction noise impacts due to Alternative B would be similar to those described under Alternative A. Given the distance to the construction from the nearest residence of 500 feet, and the

minimal construction activity required to construct a recreational trail and the relatively small Joint Use Training Facility, the increase in noise due to construction would be minor.

Permanent noise increases would likely occur due to the expansion of the Station onto the 14 acre site. However, future activity on this site, parking and materials storage (warehouse), would be unlikely to cause a substantial increase in noise to noise sensitive land use.

3.5 Topography, Soils and Geology

3.5.1 Affected Environment

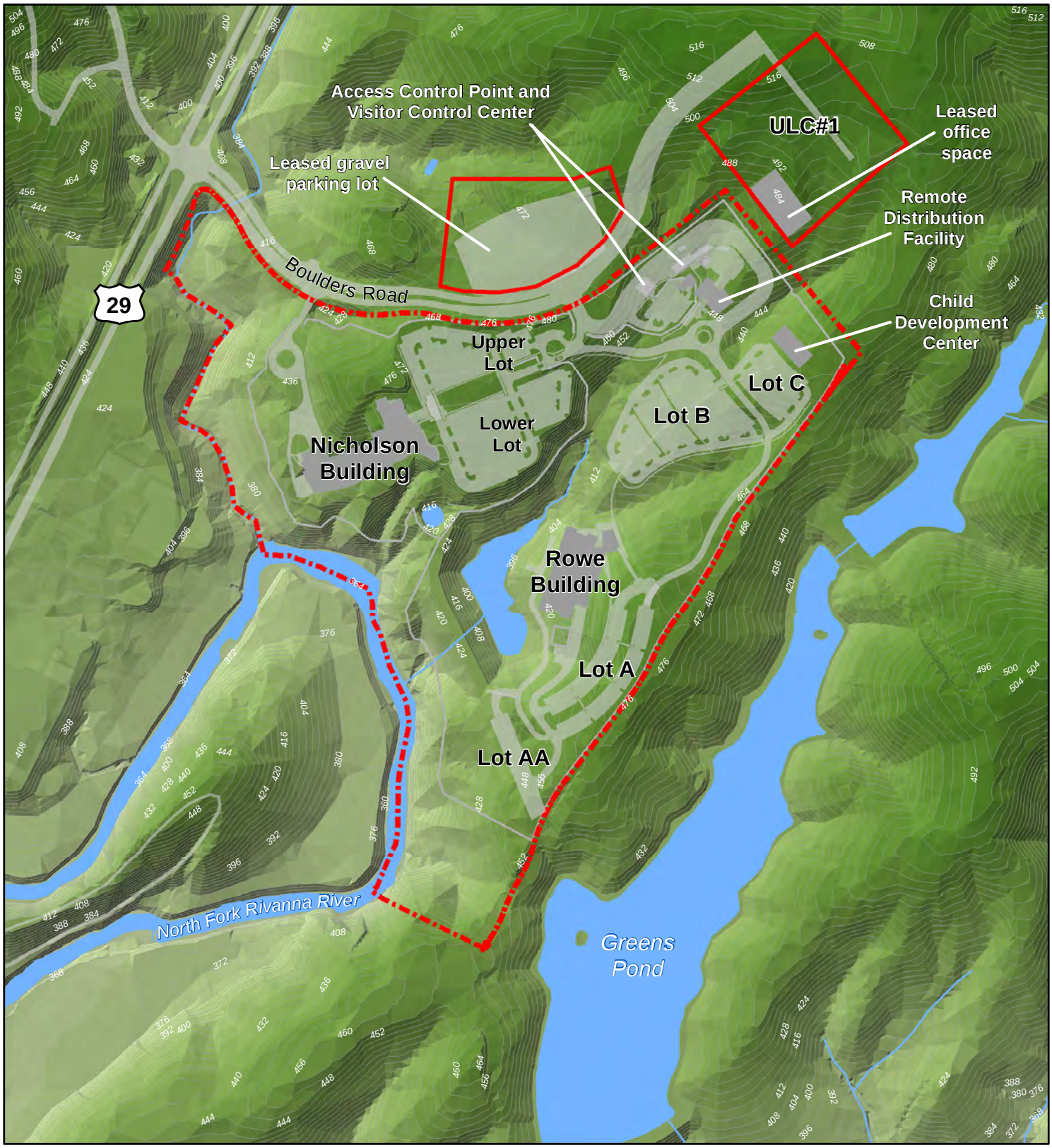
3.5.1.1 Topography

The topography of Rivanna Station is varied, and the locations of buildings and parking areas take advantage of the flatter portions of the terrain. Due to the varied terrain of the site, not all areas are suitable for development. **Figure 3-10** provides an illustration of the topography at Rivanna Station. The elevation at Rivanna Station ranges from approximately 350 feet above mean sea level (MSL) along the North Fork Rivanna River to above 500 feet MSL in the vicinity of ULC #1. There is approximately 150 feet of topographic change at Rivanna Station between the southern and northern boundaries. The landscape varies from steep stream valleys to the south along the North Fork Rivanna River to rolling hills and some flat areas north of the river.

The Nicholson Building is located on a generally flat area with an elevation of approximately 450 feet MSL. Steep hillsides surround the Nicholson Building to the west and south, leading down to the North Fork Rivanna River. The Rowe Building, located southeast of the Nicholson Building, is built into the sloping landscape with higher elevations to the east. To the south and southeast of the Rowe Building, the parking areas are at a slightly higher elevation. The retention pond between the two buildings forms a valley at its northern end running northeast through Rivanna Station. The valley has steep upward slopes to the parking areas and ends with an upward slope to the Access Control Point and Visitors Control Center. The leased gravel parking lot north of Boulders Road and the leased office space are at slightly higher elevations, with a steep incline to 515 feet MSL at the northeastern portion of the ULC #1 parking lot.

As explained in Section 3.2.1.3, Albemarle County regulates development where the ground slopes 25 percent or greater through a zoning ordinance. These slopes are protected "… in order to maintain the existing balance between slope, soils, geology, and vegetation."[24] The ordinance identifies and characterizes both managed and preserved steep slopes and provides design standards for various development scenarios.

[24] County of Albemarle, Natural Resources and Cultural Assets, Comprehensive Plan 1996-2016., p. 107.



Legend

- Station Boundary
- Leased Facilities
- Station Fenceline
- Water

348' 460' 572'
Elevation (feet)

N

0 125 250 500 Feet

Figure 3-10
Rivanna Station Topography

Sources: Ft. Belvoir DPW,
Aerial (Google Earth), 04/15/13, Prepared on 02/03/15

3.5.1.2 Soils

Soil data for the study area was obtained from the US Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). As shown in **Figure 3-11**, soil types within the general study area include Albemarle fine sandy loam, Albemarle very stony fine sandy loam, Buncombe loamy sand, Catoctin very stony silt loam, Elioak loam, Fluvanna silt loam, Glenelg loam, Louisburg sandy loam, Hazel loam and Manor loam.

Table 3.5 shows selected characteristics of the soil units in the general study area. "Prime Farmland" is included because the Farmland Protection Policy Act (FPPA) regulates federal actions that would convert important farmland to non-agricultural uses. "Important farmlands, including lands identified with soils that are prime, unique, or statewide or locally important farmland, are subject to the provisions of the Farmland Protection Policy Act."[25] The NRCS soil survey indicates whether soils are prime, unique, or statewide or locally important farmland.

Wind Erodibility Group and Erosion Factor K are included to consider potential for erosion during construction. The Wind Erodibility Group is an indicator of how susceptible a soil is to wind erosion. Group 1 soils are the most susceptible and Group 8 soils are the least susceptible. The Erosion Factor K is an indicator of how susceptible a soil is to erosion from water, with values ranging from 0.02 (lowest erodibility) to 0.69 (highest erodibility).

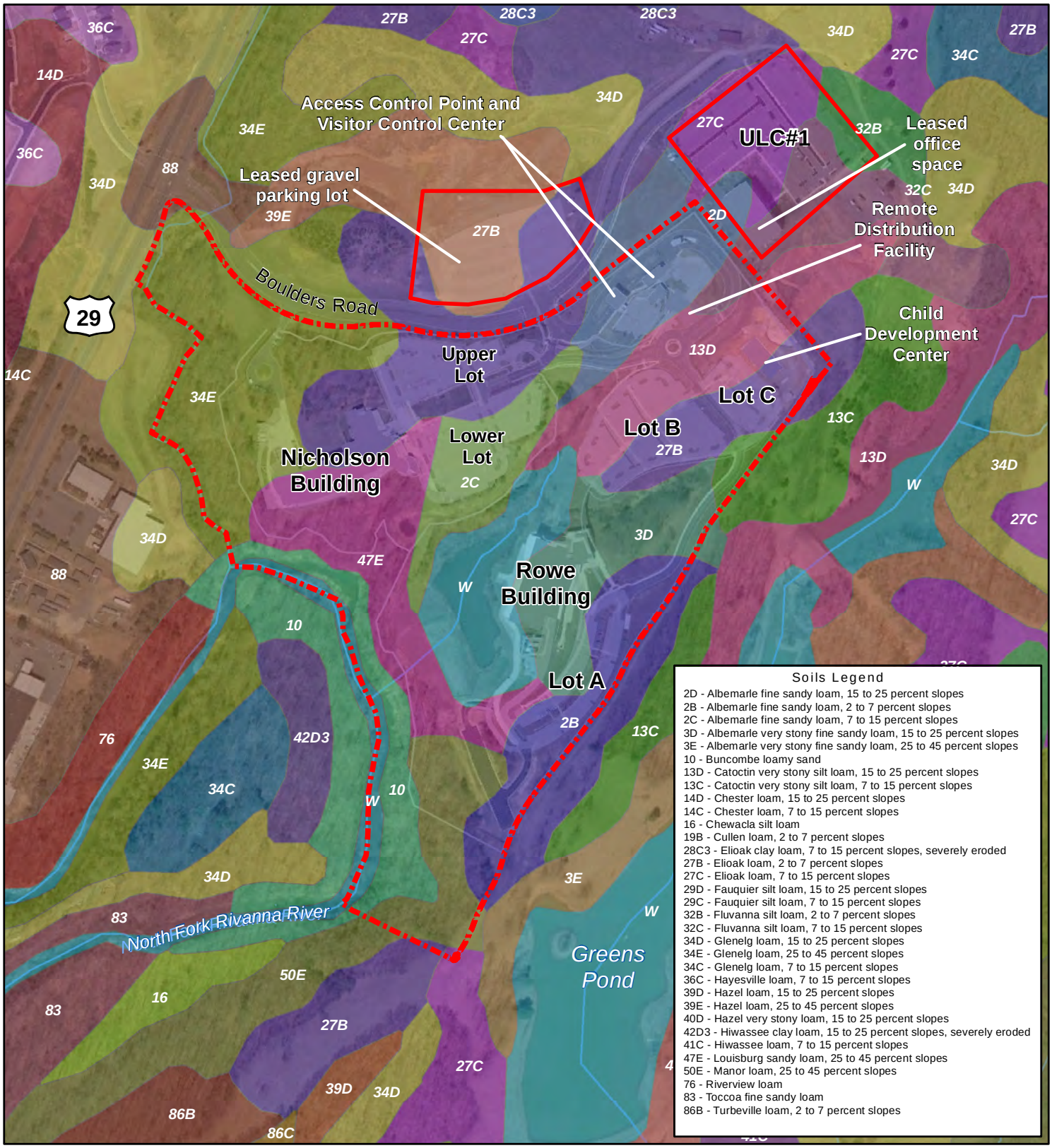
Table 3.5
Characteristics of Soil in the General Study Area

Map Unit	Map Unit Name	Prime Farmland(1)	Wind Erodibility Group	Erosion Factor K
2B	Albemarle fine sandy loam, 2 to 7 percent slopes	Yes	3	.24
2C	Albemarle fine sandy loam, 7 to 15 percent slopes	Yes	3	.24
2D	Albemarle fine sandy loam, 15 to 25 percent slopes	No	3	.24
3D	Albemarle very stony fine sandy loam, 15 to 25 percent slopes	No	3	.24
3E	Albemarle very stony fine sandy loam, 25 to 45 percent slopes	No	3	.24
10	Buncombe loamy sand	No	2	.05
13C	Catoctin very stony silt loam, 7 to 15 percent slopes	No	5	.43
13D	Catoctin very stony silt loam, 15 to 25 percent slopes	No	5	.43
27B	Elioak loam, 2 to 7 percent slopes	Yes	6	.28
27C	Elioak loam, 7 to 15 percent slopes	Yes	6	.28
32B	Fluvanna silt loam, 2 to 7 percent slopes	Yes	5	.37
32C	Fluvanna silt loam, 7 to 15 percent slopes	Yes	5	.37
34E	Glenelg loam, 25 to 45 percent slopes	No	6	.28
39E	Hazel loam, 25 to 45 percent slopes	No	5	.32
47E	Louisburg sandy loam, 25 to 45 percent slopes	No	3	.17
50E	Manor loam, 25 to 45 percent slopes	No	5	.28

Notes:
(1) Includes Prime Farmland and Farmland of Statewide Importance

Source: USDA, NRCS Web Soil Survey, 2015.

[25] U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Part 523 – Farmland Protection Policy Act Manual, §523.10.



Legend

- Station Boundary
- Leased Facilities
- Station Fenceline

Figure 3-11
Soils

N

0 125 250 500 Feet

Sources: Ft. Belvoir DPW, USDA
Aerial (Google Earth), 04/15/13, Prepared on 02/24/15

3.5.1.3 Geology

Rivanna Station is located in Virginia's Piedmont physiographic province, the Commonwealth's largest physiographic province. To the east is the Fall Zone, which separates the Piedmont from the Coastal Plain, and to the west lies the mountains of the Blue Ridge province.[26] The Piedmont province consists of gently rolling hills, deeply weathered bedrock and few rock outcrops. "Most rocks at the surface become weathered in the humid climate and buried under a blanket of "rotten rock", called saprolite several meters thick."[27] The bedrock is made up of many igneous and metamorphic rocks.[28]

3.5.2 Threshold of Significance

The threshold of significance would be exceeded if the alternative would result in a geologic hazard, such as slope instability. Additionally, in terms of converting important farmland to non-agricultural uses, a Farmland Conversion Impact Rating score between 200 and 260 would be considered significant.[29] Lastly, an alternative that would not be consistent with the Virginia Erosion and Sediment Control Regulations would result in a significant effect.

3.5.3 Environmental Consequences of the Alternatives on Topography, Soils and Geology

3.5.3.1 No Action Alternative

The No Action Alternative does not include construction or acquisition of land. Therefore, the No Action Alternative would not change exiting topography, create a geologic hazard, convert important farmland to a non-agricultural use, nor increase erosion.

3.5.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

With Alternative A, all proposed development is within the existing Station boundaries. Construction on the land within the existing Station boundaries would not convert farmland to a non-agricultural use.

Some changes in topography as a result of grading and excavation, including blasting of bedrock would be required to construct the Nicholson Building Expansion, the secondary entry and exit road, and the Joint Use Training Facility. As shown on Figure 3-8 proposed development is outside the Steep Slopes Overlay District with the exception of the new boundary fence. The installation of the fence would preserve to the maximum extent practicable the areas identified as preserved slopes.

Potential soil erosion during construction would be minimized. Fugitive dust generated during construction would be minimized in accordance with 9VAC5-50-90, *Standard for fugitive dust/emissions*.

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[26] William & Mary, The Geology of Virginia, Piedmont province, For Students & Teachers, http://web.wm.edu/geology/virginia/provinces/piedmont/piedmont_kids.html, Accessed 3/27/25.

[27] William & Mary, The Geology of Virginia, Piedmont province, For Students & Teachers, http://web.wm.edu/geology/virginia/provinces/piedmont/piedmont_kids.html, Accessed 3/27/25.

[28] William & Mary, The Geology of Virginia, Piedmont province, For Students & Teachers, http://web.wm.edu/geology/virginia/provinces/piedmont/piedmont_kids.html, Accessed 3/27/25

[29] Federal Aviation Administration, Order 5050.4B, April 2006, Table 7 – Significance Thresholds.

Soil erosion due to water would be minimized through application of erosion and sediment control measures. For projects where the land disturbance would be greater than 10,000 square feet, an erosion and sediment control plan will be developed in accordance with Virginia's Erosion and Sediment Control Law and Regulations. Also, if the land disturbance would be greater than an acre, the construction contractor must apply for coverage under the General Permit for Discharges of Stormwater from Construction Activities. As part of applying for the General Permit, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP). "The SWPPP outlines the steps and techniques the operator will take to comply with the terms and conditions of the permit, including water quality and quantity requirements that are consistent with the VSMP permit regulations, to reduce pollutants in the stormwater runoff from the construction site. The SWPPP also specifies all potential pollutant sources that could enter stormwater leaving the construction site and covers methods used to reduce pollutants in stormwater runoff during and after construction."[30]

3.5.3.3 Alternative B – Southeast Station Expansion Alternative

With Alternative B, proposed development would take place within the existing Station and on a 14 acre site between the Rowe Building and Greens Pond. A portion of the 14 acre site is designated as prime farmland based on the soils. Therefore, constructing facilities on this site could impact important farmland. To determine the severity of the impact, a Farmland Conversion Impact Rating Form (AD-1006) is completed. Completion of Form AD 1006 results in a score between 0 and 260; the higher the score the greater the need to protect the farmland from conversion. When the score is less than 160, no additional analysis is required.[31] For scores greater than 160, the project could result in an adverse effect to important farmland and alternatives should be considered. As shown on the Farmland and Conversion Impact Rating Form included in ***Appendix B***, the maximum score possible at the site is 144. Therefore, no additional analysis is required and the impact to farmlands would not exceed the threshold of significance.

As with Alternative A, Alternative B would result in changes to topography. In addition to the changes described under Alternative A, grading would be required to construct the relocated surface parking and warehouse facility on the 14 acre site. As shown in Figure 3-9, the proposed development is located outside the Steep Slopes Overlay District with the exception of the new boundary fence. As explained under Alternative A, the installation of the fence would preserve to the maximum extent practicable the areas identified as preserved slopes.

Potential soil erosion during construction would be minimized in the same manner as described under Alternative A.

[30] VDEQ, Construction General Permits, http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx, accessed 5/18/2015.
[31] Natural Resources Conservation Service, USDA, 7 CFR §658 Farmland Protection Act, 1/1/03, §658.4(c)(2).

3.6 Water Resources

Water resources are protected by the Clean Water Act, Executive Orders, and state laws and regulations. In the following sections, the water resources in and around Rivanna Station are described, applicable laws and regulations are explained, and potential impacts are disclosed.

3.6.1 Affected Environment

Albemarle County lies within the Middle James River Basin of the Chesapeake Bay watershed. Albemarle County is drained by the James River and its three major tributaries; the Rivanna River, Rockfish River, and Hardware River. Rivanna Station is located within the Rivanna River subwatershed, partially bordered by the North Fork Rivanna River. The principal tributaries of the Rivanna River are North Fork Rivanna River, Buck Mountain Creek, Moormans Creek, and Mechum River.

The Rivanna River is a tributary of the James River with an approximately 760 square mile watershed in the mountains, foothills and piedmont of Central Virginia.[32] According to the 2009 Rivanna Watershed and Vicinity Land Use/Land Cover Map, developed by the Rivanna River Basin Commission (RRBC) and its partners, 72.2% of the watershed is covered by forest, 22.8% is open land, 3.2% is impervious surface, and the remaining 2% is water, orchard and golf course.[33]

3.6.1.1 Groundwater

Groundwater can generally be defined as water that occurs beneath the surface of the ground. Generally, groundwater flows underground along hydraulic gradients and discharges into rivers, streams, lakes and the oceans. Recharge of underground aquifers occurs through precipitation that percolates through pervious land covers. Bedrock in Albemarle County consists of mostly igneous and metamorphic rocks, which are very dense and relatively impermeable. Groundwater in Albemarle County is accessed through private wells of varying depth to access fractures in the bedrock, and groundwater quality and availability are relatively consistent across the County. Water-bearing zones are generally encountered within 200 feet of the land surface.[34]

In the County, all public water supplies are provided by surface water. However, rural areas, golf courses, agricultural operations, campgrounds, schools, quarries and other sites rely on groundwater for consumptive and non-consumptive uses. According to the Comprehensive Plan, approximately 44% of all homes in the County rely on well water or springs for household use, which includes some residents who use one of 17 public community water systems using wells and springs.[35]

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[32] Rivanna River Basin Commission, About the Rivanna Watershed, http://www.rivannariverbasin.org/watershed-info.php, Accessed 4/9/15.
[33] Rivanna River Basin Commission, About the Rivanna Watershed, http://www.rivannariverbasin.org/watershed-info.php, Accessed 4/9/15.
[34] McChesney Sterrett, R., K.R. Hinkle, Ground Water Resources of Albemarle County, Virginia, December 1980. p. 1.
[35] Albemarle County, Albemarle Comprehensive Plan Draft January 23, 2014, Natural Resources chapter, page 4.15.

3.6.1.2 Surface Water

In Albemarle County, surface water provides all public water supplies, and is provided by five reservoirs and one river intake. According to the Comprehensive Plan, surface water provides drinking water supplies, recreation, agriculture, industrial and commercial uses, wastewater assimilation, scenic beauty and open space, aquatic and shoreline habitat, and drainage.[36]

The surface waters within the general study area are shown on **Figure 3-12**. The North Fork Rivanna River is formed in southwestern Greene County by the confluence of the Lynch River and the Roach River, and flows southeast into Albemarle County. Herring Branch runs from north to south nearly parallel to US Route 29, under Boulders Road, and connects to the North Fork Rivanna River. Part of Rivanna Station borders the North Fork Rivanna River to the south. Additionally, Greens Pond and an unnamed pond are located outside of Rivanna Station immediately to the east. Surface water on Rivanna Station includes a pond that was created when a dam was constructed on a tributary of the North Fork Rivanna River. As part of constructing the Rowe Building, the structure that drains the pond was repaired and retrofitted to provide stormwater detention capabilities. This pond is herein referred to as the large stormwater pond or wet retention pond. The outfall for the large stormwater pond is a stream that flows from the northeast, and discharges to the North Fork Rivanna River.

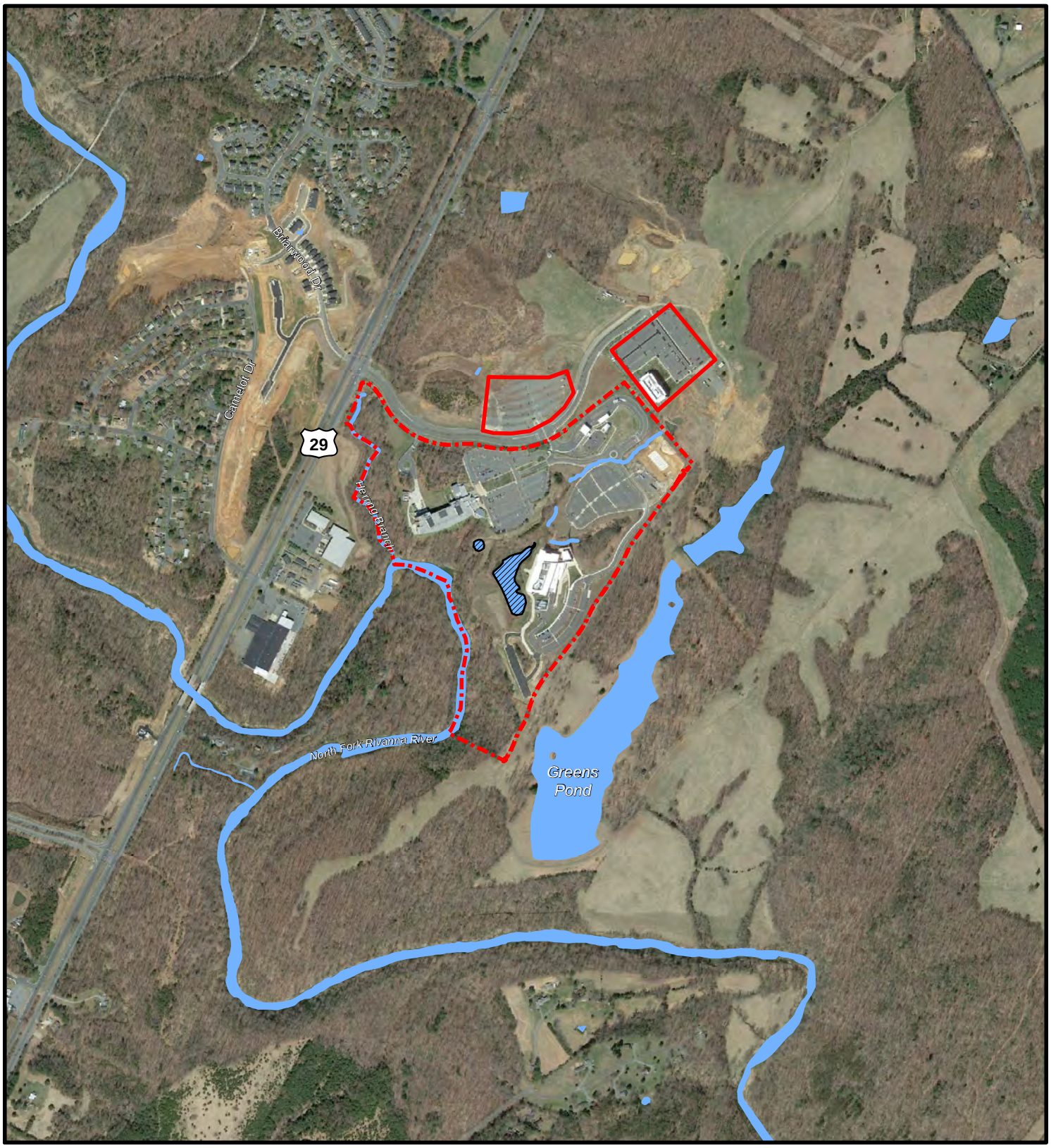
3.6.1.3 Stormwater Management

At Rivanna Station, stormwater generally flows into small tributaries and Herring Branch or into one of two stormwater management ponds. A small stormwater management pond (dry pond) located next to the Nicholson Building and a large stormwater management pond (wet retention pond) located between the Nicholson and Rowe buildings intercepts the majority of stormwater runoff from impervious surfaces on the Station. Vegetated swales and the stormwater management ponds act to filter sediment and pollutants and reduce the velocity of runoff prior to discharge into the North Fork Rivanna River.

For the Nicholson Building, the stormwater management system collects rainwater from building roof drains and the water flows through a vegetated swale to the North Fork Rivanna River. Sheet flow from the paved parking areas are conveyed via grassed swales and storm water inlets to the small stormwater pond (dry pond) located north of the large stormwater management pond (wet retention pond) then to the North Fork Rivanna River.

For buildings and paved areas located in the northeastern portions of the site, stormwater is collected via inlets and stormwater pipes and directed towards a vegetated swale that drains into the wet retention pond. Stormwater from the ULC #1 and future phases are also piped and drain into this vegetated swale and the wet retention pond.

[36] Albemarle County, Albemarle Comprehensive Plan Draft January 23, 2014, Natural Resources chapter, page 4.6.



Legend

- Station Boundary
- Leased Facilities
- Station Fenceline
- Surface Water
- Stormwater Pond

N

0 250 500 1,000 Feet

Figure 3-12
Surface Waters

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13, Albemarle County GIS
Prepared on 02/03/15

Parking lots for the Rowe Building and stormwater from the Rowe Building are also collected and piped to vegetated swales that drain into the wet retention pond. Outflow from the wet retention pond drains to the North Fork Rivanna River.

Stormwater from the 14 acre site generally flows to the southeast into Greens Pond. Ultimately, stormwater is discharged into the North Fork Rivanna River at the southern end of Greens Pond.

3.6.1.4 Water Quality

Water quality can be negatively affected by new development. New buildings and parking lots increase the amount of impervious surface thereby reducing water infiltration and increasing surface runoff. Removal of vegetation during construction of new development can increase soil erosion and sedimentation. Construction can also increase the use of hazardous materials thereby increasing the risk of release of these materials into surface water.

Laws and regulations have been implemented to protect water quality. The Federal Water Pollution Control Act, as amended by the Clean Water Act (CWA) of 1977, establishes water quality standards for restoring and maintaining the integrity of the nation's water. "Water quality standards define the goals for a water body by designating its uses, setting criteria to measure attainment of those uses, and establishing policies to protect water quality from pollutants."[37] Section 305(b) of the CWA, requires that states report on the status of water quality of their navigable waters every two years. Section 303(d) requires that states identify impaired waters; waters where the water quality does not meet standards for the designated use. Section 303(d) also requires that the state identify impaired waters for which Total Maximum Daily Loads (TMDLs) will be developed to improve water quality. A TMDL "is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards."[38]

The Draft 2014 305(b)/303(d) Water Quality Assessment Integrated Report is VDEQ's latest report on the status of water quality in Virginia's navigable waters. According to this report, the North Fork Rivanna River is impaired for recreation use due to violations of e-coli bacteria water quality standards. A TMDL was developed for the North Fork Rivanna River and approved by the EPA in December of 2008. The Draft 2014 305(b)/303(d) Water Quality Assessment Integrated Report also indicates that Herring Branch supports the propagation, growth, and protection of a balanced indigenous population of aquatic life.

The Chesapeake Bay TMDL also applies to Albemarle County and Rivanna Station because they are located in the Chesapeake Bay Watershed. The EPA established the Chesapeake Bay TMDL to restore the waters of the Chesapeake Bay and the region's streams, creeks, and rivers, and to address nutrient and sediment impairments. The tidal waters of the Chesapeake Bay continue to be enriched with the nutrients nitrogen and phosphorus, and sediment. This excess of nutrients and sediments leads to

[37] EPA Water Regulatory Information, http://water.epa.gov/lawsregs/rulesregs/, Accessed 2/24/15.
[38] EPA Water Regulatory Information, http://water.epa.gov/lawsregs/rulesregs/, Accessed 2/24/15.

problems such as annual dead zones, loss of habitat for aquatic species in the Bay and tidal waters, as well as localized water quality concerns in many upstream rivers. As a result, in accordance with the federal CWA, the EPA has directed the Chesapeake Bay jurisdictions, including Virginia to develop and implement a TMDL.

The Chesapeake Bay TMDL establishes how much nitrogen, phosphorus and sediment can flow into the waters of the Chesapeake Bay while maintaining a water quality standard that will allow for improved water quality and aquatic habitats. In December of 2010, the EPA issued the TMDL which was partially based on the Watershed Implementation Plans (WIPs) submitted by the Bay watershed states and the District of Columbia.[39] The Virginia WIP was developed by the Virginia Department of Conservation and Recreation (VDCR), VDEQ and other state agencies with help from local governments, conservation groups, and the agricultural, development and business communities. The plan identifies strategies and outlines programs and resources needed to reach the TMDL. The EPA approved Virginia's Phase I WIP in December 2010.

In Phase II of the process, the TMDL and implementation plan were localized across the entire Chesapeake Bay watershed. Most of Virginia's land mass is in the bay watershed, which is made up of all or part of 68 counties and 28 cities. For Phase II, the TMDL's load allocations, or legally binding reduction goals, have been established for 39 Virginia tidal water segments.[40] Virginia submitted its Final Phase II WIP to the EPA on March 30, 2012. The EPA provided its evaluation of the Final Phase II WIP on May 30, 2012.

In addition to developing WIPs, the Chesapeake Bay jurisdictions set two-year milestone commitments to meet the WIP goals. On June 26, 2014, the EPA released its evaluations of the 2012-2013 milestones progress as well as its evaluation of the 2014-2015 commitments. According to the EPA's evaluation, Virginia achieved its 2013 milestone targets for nitrogen, phosphorus and sediment. EPA also determined that, "Virginia's anticipated reductions for nitrogen, phosphorus and sediment during the 2014-2015 milestone period should put Virginia on track to meet the 2017 target of having all practices in place to achieve 60% of the reductions necessary to obtain water quality standards in the Chesapeake Bay."[41]

Section 402 of the CWA established requirements for control of pollutants into Waters of the US including rivers, streams, lakes, ponds and wetlands under the National Pollutant Discharge Elimination System (NPDES) permit program. The Commonwealth of Virginia has been authorized by the EPA to issue NPDES permits. The VDEQ administers the NPDES program under the Virginia Pollutant Discharge Elimination System (VPDES). "DEQ issues VPDES permits for all point source discharges to surface waters, to dischargers of stormwater from Municipal Separate Storm Sewer Systems (MS4s), and to

[39] Virginia Department of Environmental Quality, http://www.deq.virginia.gov/Programs/Water/ChesapeakeBay/ChesapeakeBayTMDL.aspx, Accessed 2/25/15.
[40] Virginia Department of Conservation and Recreation (DCR), Bay Total Maximum Daily Load (TMDL), http://www.dcr.virginia.gov/vabaytmdl/, Accessed 10/31/12.
[41] EPA, Evaluation of Virginia's 2012-2013 and 2014-2015 Milestones, June 26, 2014, p. 1.

dischargers of stormwater from Industrial Activities, and Virginia Stormwater Management Program (VSMP) permits to dischargers of stormwater from Construction Activities."[42]

The Virginia Stormwater Management Act and VSMP Regulations require the development of a stormwater management plan for proposed projects that would cause one or more acres of land disturbance. The stormwater management plan must include documentation that the required water quality and water quantity design regulations specified in 9 Virginia Administrative Code (VAC)25-870-62 through 9VAC25-870-92 will be met. Also, the construction contractor must apply for coverage under the General Permit for Discharges of Stormwater from Construction Activities. As part of applying for the General Permit, the contractor would prepare a SWPPP.

Water quality during construction is also protected by Virginia's Erosion and Sediment Control Law and Regulations which require the development of an erosion and sediment control plan when the land disturbance from a proposed project would be equal to or greater than 10,000 square feet.

Under the Stormwater Management Act, the Commonwealth of Virginia required localities to adopt local VSMPs for land-disturbing activities by July 1, 2014.[43] Accordingly Albemarle County modified their Water Protection Ordinance. As authorized by the Virginia Stormwater Management Act, the ordinance is more stringent than the minimum regulations. According to Water Protection Ordinance, the VSMP applies to projects that would involve land disturbance of 10,000 square feet or more. Also, the ordinance requires that riparian buffers be protected for 100 feet on both sides of perennial streams and contiguous wetlands.[44]

Federal agency stormwater management is also subject to the Energy Independence and Security Act (EISA) of 2007. "The purpose of EISA Section 438 is to replicate the pre-development hydrology to protect and preserve both the water resources onsite and those downstream."[45] Section 438 of EISA states:

> "Storm water runoff requirements for federal development projects. The sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."

[42] Virginia Department of Environmental Quality, http://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination.aspx, accessed 2/27/15.
[43] Code of Virginia § 62.1-44.15:27. Establishment of Virginia Stormwater Management Programs.
[44] Albemarle County Code, Chapter 17 §17-600 Extent of stream buffers; retention and establishment.
[45] EPA, Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, December 2009, p.7.

According to EISA, "The term ''Federal facility'' means any building that is constructed, renovated, leased, or purchased in part or in whole for use by the Federal Government."[46] Other terms are explained in the EPA's technical guidance on implementing Section 438 of EISA. "The "sponsor" should generally be regarded as the federal department or agency that owns, operates, occupies or is the primary user of the facility and has initiated the development or redevelopment project."[47] The technical guidance clarifies the term "footprint"; "Section 438 applies to a federal facility "with a footprint that exceeds 5,000 square feet. For the purposes of this guidance, any project involving a federal facility that disturbs 5,000 square feet or more of ground area is covered by this guidance."[48]

Green infrastructure/low impact development (GI/LID) practices can be used to meet the requirements of Section 438 of the EISA. "GI/LID practices include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, porous and permeable pavements, vegetated median strips, reforestation and revegetation and protection of riparian buffers and floodplains. These practices can be used almost anywhere soil and vegetation can be worked into the urban or suburban landscape. They include decentralized harvesting approaches such as rain barrels and cisterns that can be used to capture and re-use rainfall for watering plants or flushing toilets."[49]

3.6.1.5 Floodplains

Executive Order (EO) 11988, *Floodplain Management*, was issued "… in order to avoid, to the extent possible, the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative...".[50] The Executive Order was issued in furtherance of NEPA, the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973. Floodplains were defined as follows in Executive Order 11988,

> The term "floodplain" shall mean the lowland and relatively flat areas adjoining inland and coastal waters including floodprone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year.[51]

President Obama issued an EO entitled *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* on January 30, 2015. This new EO was issued "… to improve the resilience of communities and Federal assets against the impact of flooding" and includes amendments to EO 11988. One of the amendments regards the definition of a floodplain.

[46] Energy Independence and Security Act of 2007, 1/4/07, Title IV Section 401(8).
[47] EPA, Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, December 2009, pp. 9-10.
[48] EPA, Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, December 2009, p.10.
[49] EPA, Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, December 2009, p.8.
[50] Executive Order 11988, Floodplain management, May 24, 1977.
[51] Executive Order 11988, Floodplain management, May 24, 1977.

Instead of establishing the floodplain based on the area subjected to a one percent or greater chance in any given year, the floodplain shall be:

> (i) the elevation and flood hazard area that result from using a climate-informed science approach that uses the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science. This approach will also include an emphasis on whether the action is a critical action as one of the factors to be considered when conducting the analysis;
>
> (ii) the elevation and flood hazard area that result from using the freeboard value, reached by adding an additional 2 feet to the base flood elevation for non-critical actions and by adding an additional 3 feet to the base flood elevation for critical actions;
>
> (iii) the area subject to flooding by the 0.2 percent annual chance flood; or
>
> (iv) the elevation and flood hazard area that result from using any other method identified in an update to the FFRMS [Federal Flood Risk Management Standard].

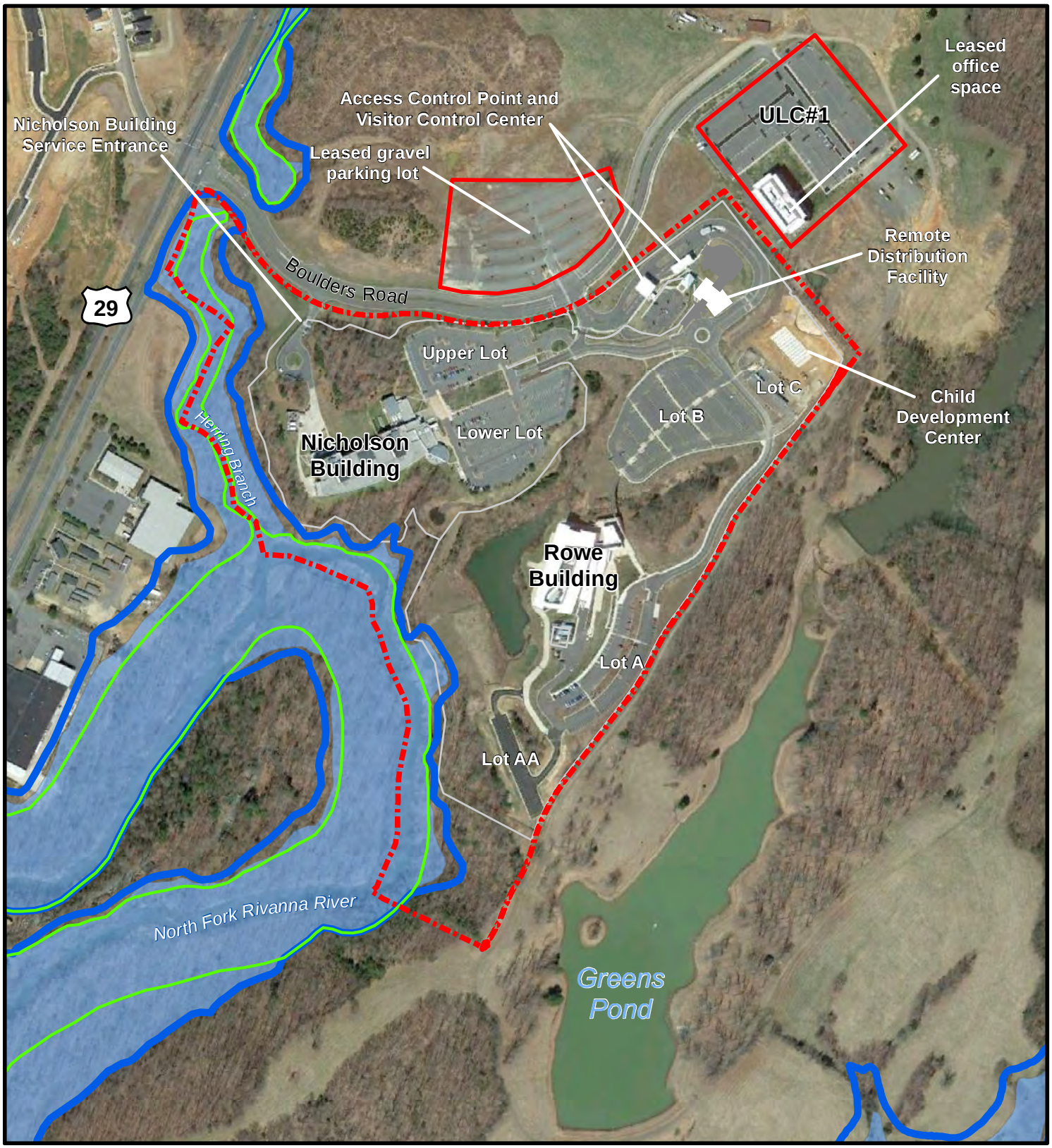
The Federal Emergency Management Agency (FEMA) completed a Flood Insurance Study for Albemarle County in February 2005 and revised the study in April 2014. The purpose of the study was to investigate the existence and severity of flood hazards and update Flood Insurance Rate Maps (FIRMs). The FIRM that includes the North Fork Rivanna River and Rivanna Station shows the boundaries for the 100-year (representing a 1% chance of flooding every year) and 500-year floodplains (representing a 0.2% chance of flooding every year), as well as the floodway. "The floodway is the channel of a stream, plus any additional floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights."[52] **Figure 3-13** shows the 100-year and 500-year floodplains and the North Fork Rivanna River floodway.

3.6.1.6 Waters of the U.S. Including Wetlands

Section 404 of the CWA, as amended, requires regulation of discharges or fill matter into Waters of the U. S., including jurisdictional wetlands. EO 11990, *Protection of Wetlands*, requires federal agencies to minimize the destruction, loss, or degradation of wetlands resulting from their actions. Wetlands are areas inundated or saturated by water (surface or ground) to be able to support vegetation adept at growing in saturated soils. Jurisdictional wetlands are wetlands connected or adjacent to navigable waters of the U.S. The U.S. Army Corps of Engineers (USACE) has primary responsibility for implementing, permitting and enforcing the provisions of Section 404.

Waters of the U.S., including wetlands, have been delineated on Rivanna Station and on the 14 acre site. Waters of the U.S. on Rivanna Station were delineated in 2003 as shown in **Figure 3-14** and a

[52] Federal Emergency Management Agency, Flood Insurance Study, Albemarle County, Virginia and Incorporated Areas And the Independent City of Charlottesville, April 2, 2014, p. 21.



Legend

- Station Boundary
- Leased Facilities
- Station Fenceline
- 100 Year Floodplain
- 500 Year Floodplain
- Floodway

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13, FEMA, HNTB, Albemarle County, Prepared on 04/09/15

0 125 250 500 Feet

N

Figure 3-13
Floodplains

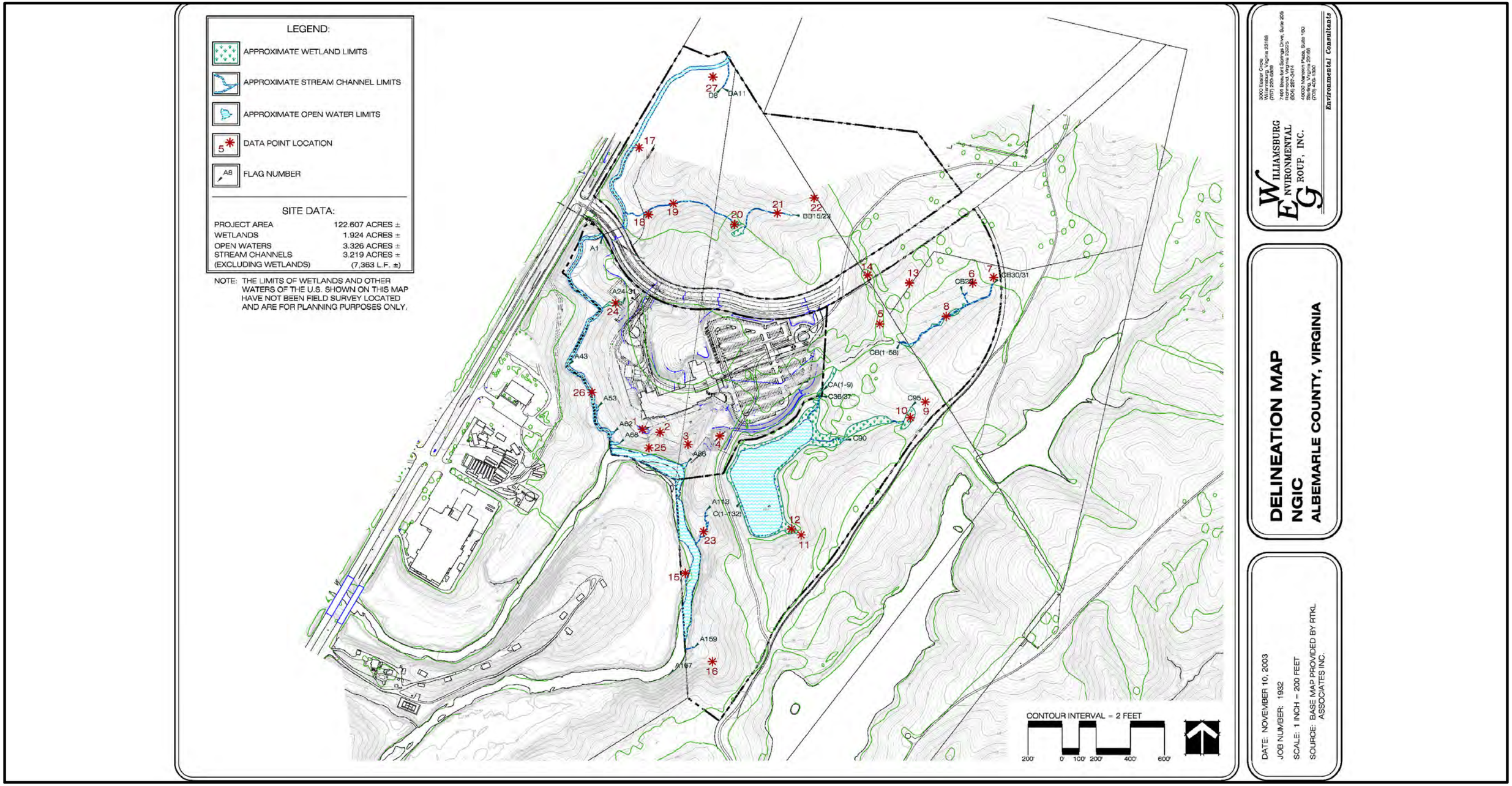


Figure 3-14
Delineation Map - 2003/2004

Sources: WEG, Inc. (2003)
Prepared on 06/04/15

jurisdictional determination was obtained in 2004.[53] In 2013, a delineation was completed as part of this EA to determine the boundaries of Waters of the US adjacent to Greens Pond and confirm the boundaries of wetlands near the Rowe Building. **Figure 3-15** shows the resulting Delineation Map. Forested, scrub-shrub and emergent wetlands with open water features and non-vegetated stream channels and drainage ways were identified. Typical wetland vegetation included American sycamore (*Platamus occidentalis*), black willow (*Salix nigra*), box elder (*Acer negundo*), tag alder (*Almus serrulata*), jewelweed (*Impatiens capensis*), fall panicgrass (*Panicum dichotomiflorum*), rice cutgrass (*Leersia oryzoides*), and Japanese stiltgrass (*Microstegium vimineum*). A request for a preliminary jurisdictional determination from the USACE for the 2013 delineation has been prepared and is included in ***Appendix C***.

To supplement previous delineations, a survey of approximately three acres at Rivanna Station was conducted in 2015. The areas were surveyed in 2003 but were not included in the 2013 delineation. No wetlands or stream features were identified during the survey. The resulting Wetland Delineation Report is provided in *Appendix C*.

3.6.2 Threshold of Significance

The threshold of significance for water resources impacts would be exceeded if the alternative would result in any of the following:

- Alteration of local surface water;
- Change to regional groundwater patterns or depletion of groundwater;
- Notable adverse impact on natural and beneficial floodplain values; or
- Substantial degradation of wetlands

3.6.3 Environmental Consequences of the Alternatives on Water Resources

3.6.3.1 No Action Alternative

The No Action Alternative would not increase impervious surfaces, alter local surface water, change groundwater, impact a floodplain or degrade a wetland because no development is included in the No Action Alternative.

3.6.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

Alternative A would not alter local surface water or groundwater. As shown on **Figure 3-16**, all proposed development would be located outside the 500-year floodplain and the Waters of the U.S. Minimal indirect impacts to water quality and the Waters of the U.S. would be expected due to minor sedimentation during construction, changes in local drainage and an increase in impervious surface. **Table 3.6** shows that the amount of impervious surface would increase by 1.6 acres with Alternative A.

[53] Department of the Army, Environmental Assessment for the Expansion of Rivanna Station, Charlottesville, Virginia, 2008, p. 3-32.

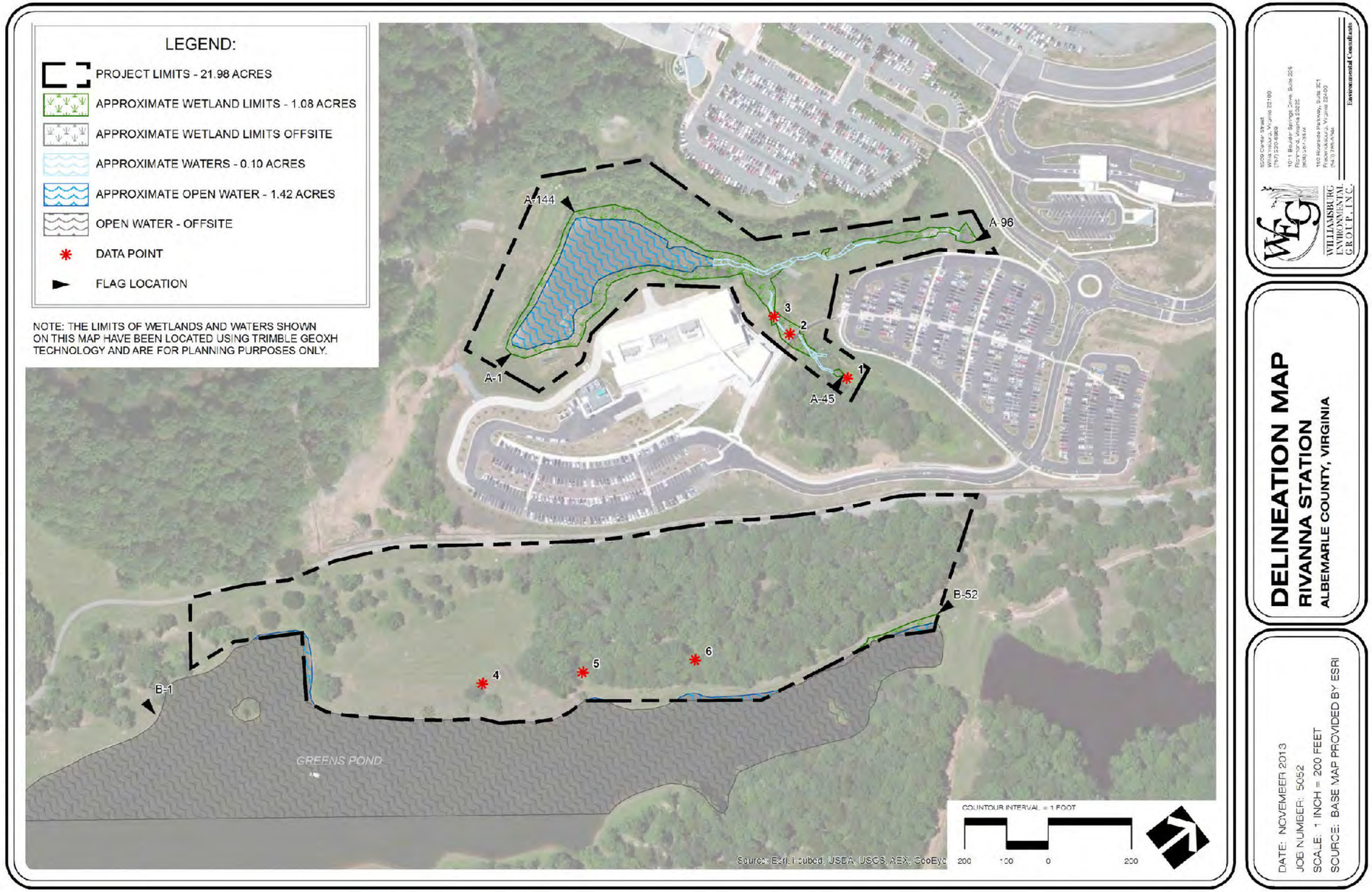
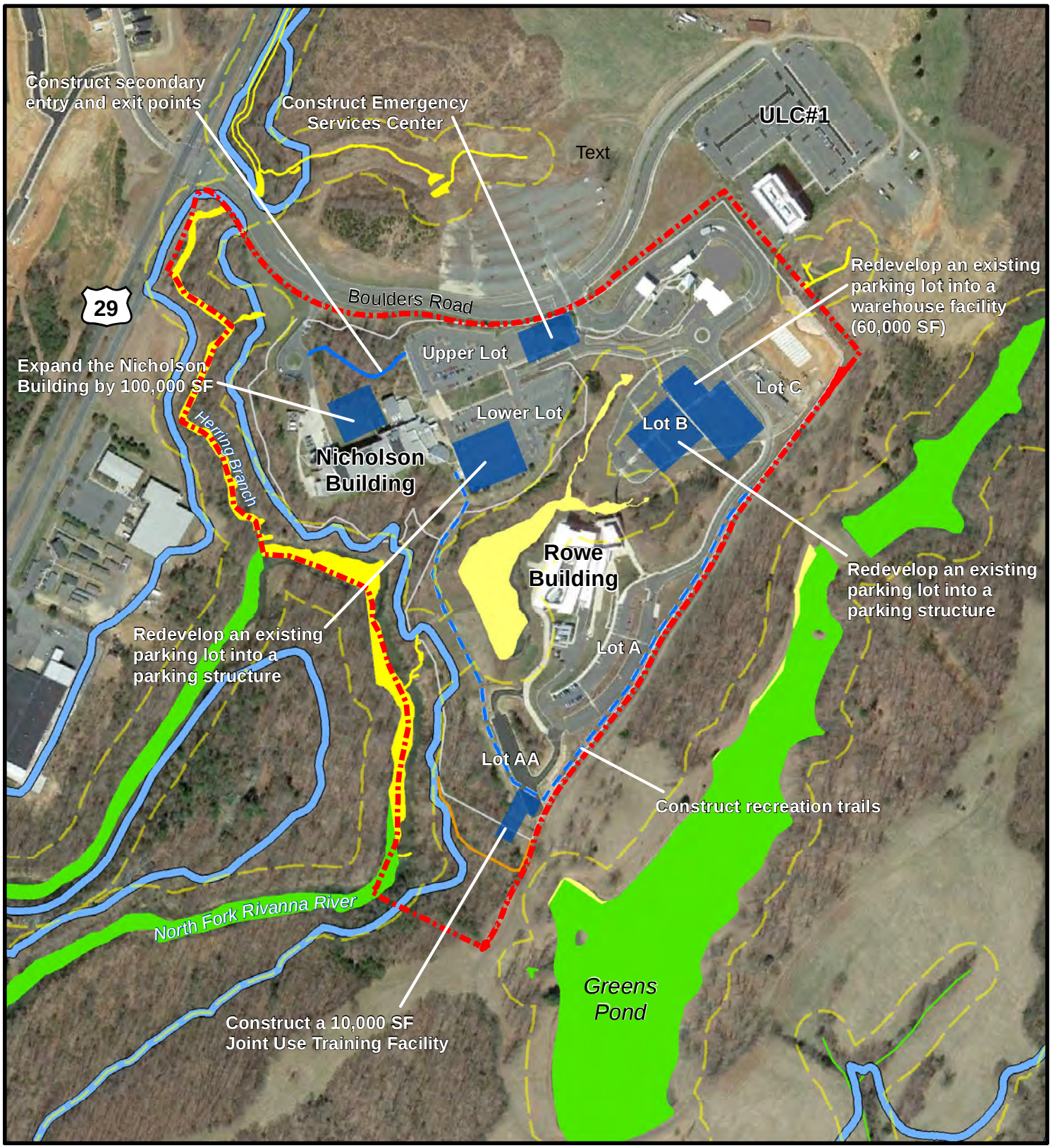


Figure 3-15
Delineation Map - 2013

Sources: WEG, Inc. (2013)
Prepared on 06/04/15



Legend

- Station Boundary
- Station Fenceline
- Proposed Fenceline
- Recreation Trail
- 500 Year Floodplain
- Waters of the U.S. - Delineated
- Waters of the U.S. - Approximated Not Delineated
- Water Protection Ordinance Buffer

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13, FEMA, HNTB, Albemarle County, Prepared on 06/04/15

Figure 3-16
Floodplains and Waters of the U.S.
Alternative A

0 125 250 500 Feet

N

This increase in impervious surface along with minor construction sedimentation and localized drainage changes would be expected to result in only minimal changes to water quality and Waters of the U.S. because:

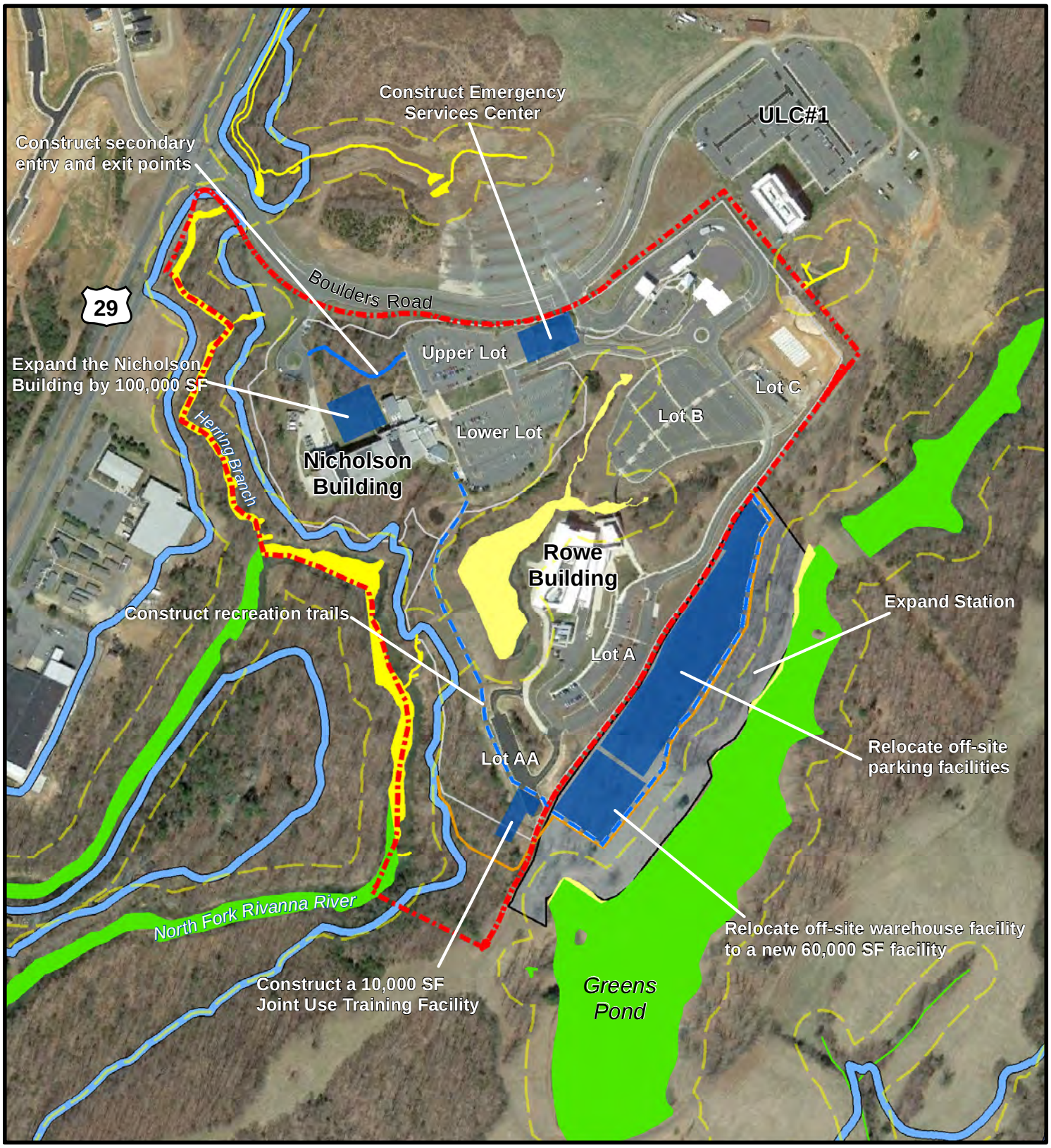
- Nearly all of the projects would disturb 10,000 square feet or greater of land and therefore,
    - Water quality during construction is protected by Virginia's Erosion and Sediment Control Law and Regulations which require the development and implementation of an erosion and sediment control plan.
    - Water quality is protected by the Albemarle County Water Protection Ordinance under which a stormwater management plan must be developed and implemented to meet the required water quality and water quantity design regulations specified in 9 VAC25-870-62 through 9VAC25-870-92.
- Section 438 of EISA applies to the proposed Warehouse Facility, Joint Use Training Facility, Emergency Services Center and the expanded Nicholson Building.
- With the exception of the boundary fence, all of the proposed projects would be located outside of the 100 foot buffers along perennial streams and wetlands.

Table 3.6
Increase in Impervious Surfaces – Alternative A

Proposed Project	Approximate Size/ Dimensions	Estimated Number of Floors	Area of Impervious Surface	
			square feet	acres
Redevelop Existing Parking Lots into Parking Structures	1,500 sq. ft - Most of the footprint is already paved		1,500	0.03
Redevelop Existing Parking Lots into Warehouse Facility	3,000 sq. ft. – Most of the footprint is already paved		3,000	0.07
Expand the Nicholson Building	100,000 sq. ft.	4 floors	25,000	0.57
Construct Joint Use Training Facility	10,000 sq. ft.	1 floor	10,000	0.23
Construct Secondary and Emergency Access Road	12 ft. wide x 460 ft. long	Not applicable	5,520	0.13
Construct Recreation Trail	Not applicable – Trail will not be paved		0	0
Construct an Emergency Services Center	25,000 sq. ft.	1 floor	25,000	0.57
Improve the Water Distribution System	Not applicable – below ground		0	0
Total			**65,520**	**1.6**

3.6.3.3 Alternative B – Southeast Station Expansion Alternative

Alternative B would not alter local surface water or groundwater. As shown on Figure 3-17, all proposed development would be located outside the 500-year floodplain and the Waters of the U.S. Minimal indirect impacts to water quality and the Waters of the U.S. would be expected due to minor sedimentation during construction, changes in local drainage and an increase in impervious surface. **Table 3.7** shows that the amount of impervious surface would increase by 6.6 acres with Alternative B.



Legend

- Station Boundary
- Station Fenceline
- Proposed Fenceline
- Recreation Trail
- 500 Year Floodplain
- Waters of the U.S. - Delineated
- Waters of the U.S. - Approximated Not Delineated
- Water Protection Ordinance Buffer

Figure 3-17
Floodplains and Waters of the U.S.
Alternative B

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13, FEMA, HNTB, Albemarle County, Prepared on 06/04/15

This increase in impervious surface along with minor construction sedimentation and localized drainage changes would be expected to result in only minimal changes to water quality and Waters of the U.S. for the same reasons discussed under Alternative A.

Table 3.7
Increase in Impervious Surfaces – Alternative B

Proposed Project	Approximate Size/ Dimensions	Estimated Number of Floors	Area of Impervious Surface	
			square feet	acres
Construct 550-600 spaces of surface parking	600 spaces @ 270 sq. ft. per spaces	Not applicable	162,000	3.7
Construct Warehouse Facility	60,000 sq. ft.	1 floor	60,000	1.4
Expand the Nicholson Building	100,000 sq. ft.	4 floors	25,000	0.6
Construct Joint Use Training Facility	10,000 sq. ft.	1 floor	10,000	0.2
Construct Secondary and Emergency Access Road	12 ft. wide x 460 ft. long	Not applicable	5,520	0.1
Construct Recreation Trail	Not applicable – trail will not be paved		0	0
Construct an Emergency Services Center	25,000 sq. ft.	1 floor	25,000	0.6
Improve the Water Distribution System	Not applicable – below ground		0	0
Total			**287,520**	**6.6**

3.7 Biological Resources

Potential impacts to plants, wildlife and fish are evaluated in accordance with applicable regulations including but not limited to the Endangered Species Act of 1973, the Fish and Wildlife Conservation Act of 1980, the Magnuson-Stevens Fishery Conservation and Management Act, as amended, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and Executive Order (EO) 13112 on Invasive Species. A brief description of each of these regulations follows:

Endangered Species Act of 1973 (ESA) – "The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend."[54] "Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future."[55] "Section 7 of the ESA requires Federal agencies to use their legal authorities to promote the conservation purposes of the ESA and to consult with the FWS [U.S. Fish and Wildlife Service] and NMFS [National Marine Fisheries Service], as appropriate, to ensure that effects of actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of listed species."[56]

Fish and Wildlife Conservation Act of 1980 (FWCA) – One of the purposes of the FWCA is "… to encourage all Federal departments and agencies to utilize their statutory and administrative authority,

[54] U.S. Fish & Wildlife Service (FWS), ESA Basics, January 2013, p. 1.
[55] FWS, ESA Basics, January 2013, p. 1.
[56] FWS, ESA Basics, January 2013, pp. 1-2.

to the maximum extent practicable and consistent with each agency's statutory responsibilities, to conserve and to promote conservation of nongame fish and wildlife and their habitats…"[57]

Magnuson-Stevens Fishery Conservation and Management Act, as amended - §305(b) requires that Federal agencies consult with the National Marine Fisheries Service on proposed actions that may adversely affect essential fish habitat (EFH). EFH is defined as "those water and substrate necessary to fish for spawning breeding, feeding, or growth to maturity."[58]

Migratory Bird Treaty Act (MBTA) – The MBTA makes it illegal for anyone to "… take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations."[59] "Take is defined as pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting or attempting to pursue, hunt, wound, kill, trap, capture or collect a migratory bird (50 CFR § 10.12). Take includes actions that are intentional (e.g., hunting or depredation control) and unintentional (or incidental), meaning that the impact or harm to the bird is not the purpose of the activity (e.g., when a bird is electrocuted by a power line or flies into a communications tower)."[60]

EO 13186 Responsibilities of Federal Agencies to Protect Migratory Birds - EO 13186 directs federal agencies to take actions that further implement the MBTA. Federal agencies whose actions could affect migratory bird populations are required to develop and implement a Memorandum of Understanding (MOU) with the FWS that promotes the conservation of migratory bird populations.[61]

Memorandum of Understanding between the U.S. Department of Defense and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds - This MOU applies to incidental take of migratory birds and "outlines a collaborative approach to promote the conservation of migratory bird populations."[62]

50 CFR Part 21 Migratory Bird Permits; Take of Migratory Birds by the Armed Forces - 50 CFR Part 21 is the regulation that addresses incidental take of migratory birds for military readiness activities. Military readiness activities are defined as "…all training and operations of the Armed Forces that relate to combat, and the adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use."[63]

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[57] 16 USC Chapter 49, Fish and Wildlife Conservation, §2901.
[58] 50 CFR Part 600, Magnuson-Stevens Act Provisions, §600.10.
[59] FWS, Migratory Bird Program, http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html, Accessed 3/24/15.
[60] Frequently Asked Questions for How to Assess Migratory Bird Impacts, http://www.dodpif.org/downloads/MBTA_FAQs_May2013.pdf, May 2013, p. 1.
[61] EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, January 10, 2001, Sec. 3.
[62] Memorandum of Understanding between the U.S. Department Of Defense and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds, 7/2006, A.
[63] FWS, 50 CFR Part 21, Migratory Bird Permits; Take of Migratory Birds by the Armed Forces, February 28, 2007, §21.3.

Bald and Golden Eagle Protection Act (BGEPA) - The BGEPA "… prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs."[64] The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."[65]

EO 13112 on Invasive Species - EO 13112 directs Federal agencies to prevent the introduction of invasive species. Invasive species are defined as species not native to the region or area whose introduction does, or is likely to, cause economic or environmental harm to human health.[66]

3.7.1 Affected Environment

3.7.1.1 Plant Communities

The developed areas of the Station include improved grounds and semi-improved grounds, primarily as landscaping to the existing facilities. The dominant vegetation in the developed areas includes a mix of turf grasses and ornamental trees and shrubs along site peripheries, in parking lot islands, and in association with existing buildings.[67] These areas have been landscaped for enhanced aesthetics and shade.

The undeveloped areas of Rivanna Station are typical of the region, ranging from areas of undisturbed mature forest to grassy habitat succeeding to old-field, with transition areas between.[68] The forest species include tulip poplar (*Liriodendron tulipifera*), American beech (*Fagus grandifolia*), northern red oak (*Quercus rubra*) and white oak (*Quercus alba*) with red maple (*Acer rubrum*) and sycamore (*Platanus occidentalis*) found in the wetlands and along the floodplain.[69]

The 14 acre site outside the Rivanna Station boundary contains a mix of open periodically maintained grassland with scattered immature to semi-mature trees and a large area of open semi-mature mixed hardwood forest. Small saplings are scattered on the site. Shrub and herbaceous layer ranges from dense to moderate coverage. Trees within the canopy include sycamore (*Platanus occidentalis*), white oak (*Quercus alba*), southern red oak (*Quercus falcata*), tulip poplar (*Liriodendron tulipifera*), mockernut hickory (*Carya tomentosa*), black gum (*Nyssa sylvatica*), loblolly pine (*Pinus taeda*), and white ash (*Fraxinus americana*). Shrub and small saplings are characterized by scattered canopy species, redbud (*Cercis Canadensis*), flowering dogwood (*Cornus florida*), eastern red cedar (*Juniperus virginiana*), southern lowbush blueberry (*Vaccinimum pallidum*), mountain laurel (*Kalmia Latifolia*), and black haw (*Viburnum prunifolium*). Herbaceous growth is dominated by blackberry (*Rubus argutus*), Japanese

[64] FWS, Eagle Permits, http://www.fws.gov/midwest/midwestbird/eaglepermits/bagepa.html, Accessed, 3/25/2015.
[65] FWS, Eagle Permits, http://www.fws.gov/midwest/midwestbird/eaglepermits/bagepa.html, Accessed, 3/25/2015.
[66] Executive Order 13112, Invasive Species, February 3, 1999, Section1.
[67] Department of the Army, Environmental Assessment for the Expansion of Rivanna Station, Charlottesville, Virginia, 2008, p. 3-35.
[68] Department of the Army, Environmental Assessment for the Expansion of Rivanna Station, Charlottesville, Virginia, 2008, p. 3-35.
[69] Department of the Army, Environmental Assessment for the Expansion of Rivanna Station, Charlottesville, Virginia, 2008, p. 3-35.

stiltgrass (*Microstegium vimineum*), hog peanut (*Amphicarapaea bracteata*) and Christmas fern (*Polystichum acrostichoides*). Vine growth is characterized by Japanese honeysuckle (*Lonicera japonica*), which is dominant in many areas in the understory (the plant growth beneath the forest canopy).[70]

The Japanese stiltgrass and Japanese honeysuckle are on the Virginia Invasive Plant Species List and are ranked as exhibiting high levels of invasiveness to natural communities and native species.[71]

3.7.1.2 Fish and Wildlife

During a survey of the North Fork Rivanna River and Herring Branch in 2013, a number of aquatic species were observed, including fish, mussels, aquatic snails, and non-native freshwater clams (*Corbicula fluminea)*. Common fish observed during the survey included Roanoke darter (*Percina roanoka*), Johnny darter (*Etheostaoma nigrum)*, blacktip jumprock (*Moxostoma cervinum*), northern hogsucker (*Hypentelium nigricans*), central stonerollers (*Campostoma anomalum michauxi*), fallfish (*Semotilus corporalis*) and largemouth bass (*Micropterus salmoides*). Mussels found in the North Fork Rivanna River included one live James Spinymussel (*Pleurobema collina*), 11 live creeper (*Strophitus undulatus),* and 43 live notched rainbow (*Villosa constricta*).[72] American eels (*Anguilla rostrata*) have also been observed in the North Fork Rivanna River near Rivanna Station.[73] No EFH was identified for the North Fork Rivanna River.

The most common terrestrial wildlife common to the project area include deer, turkey, fox, raccoon, opossum, squirrel, rabbit, weasel, and groundhog. Amphibians and reptiles such as snakes, lizards, salamanders, frogs, and turtles are also found to occur in the vicinity of the project area. Numerous species of wild songbirds nest in the area, and birds of prey and waterfowl are also commonly seen.[74]

The U.S. Fish and Wildlife Service Information, Planning, and Conservation System (IPaC) tool identified 15 birds on the Migratory birds of concern list in the vicinity of the project area. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.). The migratory birds of concern include Bald eagle (*Haliaeetus leucocephalus*), Black-billed Cuckoo (*Coccyzus erythropthalmus*), Blue-winged Warbler (*Vermivora pinus*), cerulean warbler (*Dendroica cerulea*), Fox Sparrow (*Passerella liaca*), Kentucky Warbler (*Oporornis formosus*), Loggerhead Shrike (*Lanius ludovicianus*), Pied-billed Grebe (*Podilymbus podiceps*), Prairie Warbler (*Dendroica discolor*), Prothonotary Warbler (*Protonotaria citrea*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Rusty Blackbird (*Euphagus carolinus*), Short-eared Owl (*Asio flammeus*), Wood Thrush (*Hylocichla mustelina*), and Worm eating Warbler (*Helmitheros vermivorum*).

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[70] Williamsburg Environmental Group, Inc., Indiana Bat Habitat Survey, November 21, 2013.

[71] Heffernan, K., E. Engle, C. Richardson. 2014. Virginia Invasive Plant Species List. Virginia Department of Conservation and Recreation, Division of Natural Heritage. Natural Heritage Technical Document 14-11. Richmond.

[72] Daguna Consulting, LCC, Mussel Survey of the North Fork Rivanna River Bordering the Joint Use Intelligence Analysis Facility in Rivanna Station (JUIAF, Rivanna Station) in Albemarle County, Virginia, October 8, 2013.

[73] Biological Solutions, Inc., Essential Fish Habitat Assessment, Rivanna Station (Proposed Joint Use Intelligence Facility), July 2008.

[74] Cultural Resources, Inc., Phase I Cultural Resources Survey of Approximately 14.0 Acres Associated with the Proposed Expansion of the Rivanna Station Development Area, Albemarle County, Virginia, October 2013, p. 4.

3.7.1.3 Threatened and Endangered Species and Habitats

Federal and state database tools were used to initially identify any threatened or endangered species or their habitat within the study area. The IPaC planning tool identified two federally listed endangered species, the James spinymussel (*Pleurobema collina*), and effective May 4, 2015, the northern long-eared bat (*Myotis septentrionalis*) as having the potential to exist within an approximately five mile radius of the project area. According to the FWS IPaC planning tool, no critical habitats for federally endangered or threatened species are within the vicinity of the project area. The Virginia DCR Natural Heritage Resources search results includes the Atlantic pigtoe (federal species of concern and state threatened species) and the James spinymussel (federal and state endangered). The IPaC and VDCR Natural Heritage Resources search results are provided in ***Appendix D***.

The James spinymussel is a freshwater mussel that feeds on plankton collected from water that is passed over its gills. Suitable habitat for this species includes free-flowing streams with a variety of flow regimes and water depths.[75] A mussel survey was conducted in August 2013 to survey two stretches of North Fork Rivanna River and Herring Branch for the presence of the James spinymussel. One occurrence of the endangered mussel was identified during the survey approximately 550 meters downstream of the southern border of Rivanna Station in the North Fork Rivanna River.[76] Based on this finding and results of previous studies, it was concluded that the James spinymussel is present in the North Fork Rivanna River near Rivanna Station.[77] The mussel survey is provided in *Appendix D*.

The northern long-eared bat roosts singly or in colonies underneath bark or in crevices of live and dead trees during the summer. During the winter, the bats hibernate in caves and mines. Female northern long-eared bats roost in maternity colonies in the summer months, and typically give birth between late May and late July.[78] The northern long-eared bat is impacted by the disease white-nose syndrome. Due in large part to the impacts of this disease on the population, the northern long-eared bat is now being listed as a threatened species under the Endangered Species Act.[79] The study area is within the White-nose Syndrome Buffer Zone for the northern long-eared bats. The White-nose Syndrome Buffer Zone identifies the portion of the range of the northern long-eared bat within 150 miles of the boundaries of

[75] U.S. Fish and Wildlife Service Information, Planning, and Conservation System Species Information, James spinymussel (*Pleurobema collina),* http://ecos.fws.gov/ipac/wizard/speciesInformation!showSpeciesInformation.action?spcode=F025, Accessed 1/20/15.

[76] Daguna Consulting, LCC, Mussel Survey of the North Fork Rivanna River Bordering the Joint Use Intelligence Analysis Facility in Rivanna Station (JUIAF, Rivanna Station) in Albemarle County, Virginia, October 8, 2013, p. 5.

[77] Daguna Consulting, LCC, Mussel Survey of the North Fork Rivanna River Bordering the Joint Use Intelligence Analysis Facility in Rivanna Station (JUIAF, Rivanna Station) in Albemarle County, Virginia, October 8, 2013, p. 5.

[78] U.S. Fish and Wildlife Service Information, Planning, and Conservation System Species Information, northern long-eared Bat (*Myotis septentrionalis*), http://ecos.fws.gov/ipac/wizard/speciesInformation!showSpeciesInformation.action?spcode=A0JE, Accessed 4/8/15.

[79] FWS, Northern Long-Eared Bat (*Myotis septentrionalis),* http://www.fws.gov/midwest/endangered/mammals/nleb/, Accessed 4/8/2015.

U.S. counties or Canadian districts where White-nose Syndrome or the associated fungus has been detected.[80]

The Atlantic pigtoe is a medium-sized freshwater mussel that prefers clear, swift waters with gravel and or sand and gravel substrates.[81] Coordination undertaken for the 2008 EA indicated that the Atlantic pigtoe has been documented in the North Fork Rivanna River in the vicinity of Rivanna Station. However, no Atlantic pigtoe were identified during the August 2013 mussel survey.

Coordination conducted for the 2008 EA also indicated that the federally and state endangered Indiana bat (*Myotis sodalist*) was identified in Albemarle County or in adjacent counties.[82] Indiana bats are found over most of the eastern half of the United States. Almost half of the species hibernate in caves in southern Indiana; however other states within the current range of the Indiana bat include the Commonwealth of Virginia.[83]

A summer survey and winter habitat assessment for the Indiana bat was conducted in 2008 prior to the construction of the Rowe Building. During a summer mist net survey lasting eight nights, two eastern red bats (*Lasiurus borealis*) and one eastern pipistrelle (*Perimyotis subflavus*) but no endanger bats were captured. Also, no potential winter habitat was located during the assessment. The Summer Survey and Winter Habitat Assessment for the Federally Endangered Indiana bat (*Myotis sodalis*) for a Proposed Construction Project at Rivanna Station is provided in *Appendix D*.

Also, a habitat survey for the Indiana bat was completed on the 14 acre site in October 2013. The area surveyed was found to contain habitat suitable for summer use by Indiana bats (large trees with exfoliating bark, scattered snags and cavities within dying and living trees, etc.). Suitable foraging habitat is present within the area surveyed. There is no potential for winter use as there are no known caves or potential underground roosts. The Indiana Bat Habitat Survey is provided in *Appendix D*.

The northern long-eared bat is found in similar habitats to the Indiana Bat, and is known to be even less selective of habitat. Therefore, the area surveyed for the Indiana Bat also contains summer habitat suitable for the northern long-eared bat.[84]

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[80] 50 CFR Part 17, Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule; Final Rule and Interim Rule, Federal Register / Vol. 80, No. 63 / Thursday, April 2, 2015 / Rules and Regulations, p. 18024.

[81] Department of the Army, Environmental Assessment for the Expansion of Rivanna Station, Charlottesville, Virginia, 2008, p. 3-36.

[82] Department of the Army, Environmental Assessment for the Expansion of Rivanna Station, Charlottesville, Virginia, 2008, p. 3-36.

[83] FWS, Indiana bat (*Myotis sodalist),* http://www.fws.gov/midwest/Endangered/mammals/inba/inbafctsht.html, Accessed 1/20/15.

[84] Record of Telephone Call between B. Bottiger and S. Wender on 4/8/15.

3.7.2 Threshold of Significance

The threshold of significance for biological resources impacts would be exceeded if the alternative would:

- Jeopardize the continued existence of any federally listed threatened or endangered species or result in destruction of critical habitat;
- Decrease the available habitat for commonly found species to the extent that the species could no longer exist in the area; or
- Eliminate a sensitive habitat such as breeding areas, habitats of local significance, or rare or state-designated significant natural communities needed for the survival of a species.

3.7.3 Environmental Consequences of the Alternatives on Biological Resources

3.7.3.1 No Action Alternative

The No Action Alternative would maintain the existing boundaries of Rivanna Station and none of the proposed facilities would be constructed. Therefore, the No Action Alternative would not affect biological resources.

3.7.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

Vegetation within the existing property would be removed to construct the proposed development with Alternative A. Forested areas would be cleared to construct the secondary entry and exit roadway, the Nicholson Building expansion and the Joint Use Training Facility as well as to install the new boundary fence. An estimate of the vegetation removal is provided in **Table 3.8**.

Table 3.8
Approximate Vegetation Removal (Forested Areas) – Alternative A

Proposed Development	Approximate Footprint	Buffer	Approximate Vegetation Removal
Secondary Entry and Exit Roadway	460 foot long by 12 foot wide paved road	6 feet each side	11,000 square feet
Nicholson Building Expansion	25,000 square feet (100,000 square feet in four stories)	10% of footprint	27,500 square feet
Fence	500 linear feet	20 foot wide centered on the trail/fence	10,000 square feet
Joint Use Training Facility	10,000 square feet	10 % of footprint	11,000 square feet
Total (square feet)			**59,500 square feet**
Total (acres)			**1.4 acres**

The estimate is conservative because it assumes that vegetation removal will be required within the entire footprint and buffer for the Nicholson Building Expansion and the Joint Use Training Facility. The total estimated amount of forested area removal would be approximately 1.4 acres. Given that there are roughly 230 acres of deciduous tree cover within a one half mile radius of Rivanna Station, removal

of 1.4 acres of forested area would be relatively minor. Regardless, mitigation for this loss of vegetation would be provided in accordance with Fort Belvoir Policy Memorandum #27, *Tree Removal and Protection*. All trees four inches and larger in diameter at breast height and any specimen trees will be identified prior to construction. Two new trees will be planted for each live tree four inches in diameter and larger. Specimen trees will be preserved in place to the extent possible.

The vegetation to be removed is suitable for migratory bird species and summer habitat for the northern long-eared bat and Indiana bat. Therefore, a survey for birds and active nests will be conducted prior to construction to ensure that no migratory bird, active nests, egg or hatchling will be removed, damaged or destroyed. In addition, a bat survey will be required between May 15 and August 15 and Section 7 consultation with the FWS will be conducted prior to removing the vegetation. Finally, tree removal would occur outside the active season (April 15 through September 15) for the northern long-eared bat and Indiana bat. The implementation schedule for Alternative A should be developed such that the survey and Section 7 consultation are completed prior to initiation of construction and that tree removal is conducted between September 16 and April 14.

Alternative A is not expected to impact the federally listed endangered James spinymussel because Alternative A would not directly affect and only minimally indirectly affect the North Fork Rivanna River. Although there would be an increase in impervious surface, Alternative A would be expected to only minimally affect the water quality in the North Fork Rivanna River as explained in section 3.6.3.2.

Construction of a communication tower as part of the proposed emergency services center could affect migratory birds, especially night-migrating birds. The FWS has developed voluntary guidelines to avoid bird strikes at towers.[85] These voluntary guidelines include collocating communications equipment on existing towers, limiting the height of new towers to no more than 199 feet above ground level and using construction techniques which do not require guy wires. Towers should not be sited in known bird concentration areas such as wetlands and wildlife refuges, in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Additionally, towers should not be sited in areas with a high incidence of fog, mist, and low ceilings. The tower should be unlighted if Federal Aviation Administration regulations permit. If it must be lighted, lighting should be the minimum allowed and consist of white strobe lights as opposed to solid red or pulsating red lights.[86]

The proposed communication tower has not been designed. It is presumed that the communication tower would be collocated with the proposed Emergency Services Center and therefore would not be located in a wetland or habitat of threatened or endangered species. It is also presumed that the tower would be less than 199 feet tall, no guy wires would be required and minimal lighting if any would be appropriate. Therefore, significant impacts to migratory bird species would not be expected.

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[85] FWS, Director's Memo, Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers, September 14, 2000. http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html, Accessed, 3/25/15.

[86] FWS, Director's Memo, Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers, September 14, 2000. http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html, Accessed, 3/25/15.

Construction impacts may temporarily affect wildlife and their habitat. For instance, removal of vegetation and increased noise could alter behavior or cause relocation. Erosion during construction could cause additional sedimentation and affect the water quality in the North Fork Rivanna River. However, these impacts would be minimized by conducting tree removal outside of the active season for the northern long-eared bat and Indiana bat and protecting water quality during construction in accordance with Virginia's Erosion and Sediment Control Law and Regulations. Given the temporary nature of construction activities and the abundance of similar habitat available, construction impacts to wildlife would not be expected to exceed the threshold of significance.

In summary, impacts to biological resources with Alternative A would not exceed the threshold of significance because:

- Alternative A is not expected to jeopardize the continued existence of the federally listed endangered James spinymussel, northern long-eared bat or Indiana bat because Alternative A would only minimally affect the water quality in the North Fork Rivanna River and tree removal would only occur outside the northern long-eared bat or Indiana bat active season (April 15 through September 15);
- Alternative A would not result in destruction of critical habitat because according to the FWS IPaC planning tool, no critical habitats for federally endangered or threatened species are within the project area;
- Alternative A would require removal of forested areas, however, given the large amount of forested habitat available near Rivanna Station and that the loss of the forested area will be addressed in accordance with Fort Belvoir Policy Memorandum #27, Tree Removal and Protection, the removal would not decrease the available habitat for commonly found species to the extent that the species could no longer exist in the area; and
- Alternative A would not eliminate a known sensitive habitat such as breeding areas, habitats of local significance, or rare or state-designated significant natural communities needed for the survival of a species because no such habitats were identified in the Virginia DCR Natural Heritage Resources search.

3.7.3.3 Alternative B – Southeast Station Expansion Alternative

As with Alternative A, Alternative B would require vegetation removal within the existing property. In addition, both forested areas and maintained grassland within the 14 acre site would be removed to construct the proposed surface parking lot and warehouse facility, and install the boundary fence. An estimate of the vegetation removal is provided in **Table 3.9**. The estimate is conservative because it assumes that vegetation removal will be required within the entire footprint and buffer for the Nicholson Building Expansion and the Joint Use Training Facility. The total amount of estimated vegetative removal would be approximately 6.7 acres of forested area and 1.5 acres of maintained grassland. Given that there are roughly 230 acres of deciduous tree cover within a one half mile radius of Rivanna Station, removal of 6.7 acres of forested area would be relatively minor. Regardless,

mitigation for the loss of forested areas would be provided in accordance with Fort Belvoir Policy Memorandum #27, *Tree Removal and Protection*, as outlined in Alternative A.

Like Alternative A, Alternative B is not expected to impact the federally listed endangered James spinymussel because Alternative B would not directly affect and only minimally indirectly affect the North Fork Rivanna River.

Table 3.9

Approximate Vegetation Removal (Forested Areas and Maintained Grassland) – Alternative B

Proposed Development	Approximate Footprint	Buffer	Approximate Vegetation Removal
Forested Areas			
Secondary Entry and Exit roadway	460 foot long by 12 foot wide paved road	6 feet each side	11,000 square feet
Nicholson Building Expansion	25,000 square feet (100,000 square feet in four stories)	10% of footprint	27,500 square feet
Fence	500 linear feet in wooded area	20 foot wide centered on the trail/fence	10,000 square feet
Joint Use Training Facility	10,000 square feet	10% of footprint	11,000 square feet
600 Spaces of Surface Parking	162,000 square feet	10% of footprint	178,200 square feet
Total (square feet)			**292,700 square feet**
Total (acres)			**6.7 acres**
Maintained Grassland			
Warehouse Facility	60,000 square feet	10% of footprint	66,000 square feet
			1.5 acres

As with Alternative A, the vegetation to be removed is suitable for migratory bird species and summer habitat for the northern long-eared bats and Indiana bats. Therefore, a survey for migratory birds and active nests as well a survey for northern long-eared bats and Indiana bats will be conducted. In addition, Section 7 consultation with the FWS will be conducted prior to removing the vegetation. Finally, tree removal would occur outside the active season (April 15 through September 15) for the northern long-eared bat and Indiana bat. The implementation schedule for Alternative B should be developed such that the survey and Section 7 consultation are completed prior to initiation of construction and that tree removal is conducted between September 16 and April 14.

The same assumptions apply to the proposed communication tower with Alternative B as with Alternative A. Therefore, significant impacts to migratory bird species due to the proposed communication tower under Alternative B would not be expected.

Similar to Alternative A, construction impacts may temporarily affect wildlife and their habitat. Construction impacts with Alternative B would be minimized in the same manner as with Alternative A. Therefore, given the temporary nature of construction activities and the abundance of similar habitat

available, construction impacts to wildlife would not be expected to exceed the threshold of significance.

Invasive species, Japanese stiltgrass and Japanese honeysuckle, are present on the 14 acre site. Therefore, construction equipment used on the site would be inspected and cleaned prior to leaving the site to prevent introduction or spread of these invasive species.

In summary, impacts to biological resources with Alternative B would not exceed the threshold of significance because:

- Alternative B is not expected to jeopardize the continued existence of the federally listed endangered James spinymussel, northern long-eared bat or Indiana bat because Alternative A would only minimally affect the water quality in the North Fork Rivanna River and tree removal would only occur outside the northern long-eared bat or Indiana bat active season (April 15 through September 15);
- Alternative B would not result in destruction of critical habitat because according to the FWS IPaC planning tool, no critical habitats for federally endangered or threatened species are within the project area;
- Alternative B would require removal of forested areas and maintained grassland, however, given the large amount of both forested habitat and open fields available near Rivanna Station and that the loss of the forested area will be addressed in accordance with Fort Belvoir Policy Memorandum #27, Tree Removal and Protection, the removal would not decrease the available habitat for commonly found species to the extent that the species could no longer exist in the area; and
- Alternative B would not eliminate a known sensitive habitat such as breeding areas, habitats of local significance, or rare or state-designated significant natural communities needed for the survival of a species because no such habitats were identified in the Virginia DCR Natural Heritage Resources search.

3.8 Historic Properties

Historic properties are evaluated to fulfill the requirements of NEPA and the National Historic Preservation Act of 1966 (NHPA). Section 106 of the NHPA requires federal agencies to consider the effects of their projects on historic properties. Historic properties are defined as prehistoric or historic districts (e.g., archaeological sites), buildings, structures, objects (e.g., memorials), and traditional cultural properties that are listed on or are eligible for listing on the National Register of Historic Places (NRHP). The NRHP is the official list of the Nation's historic places that "is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archaeological resources."[87]

87 National Park Service, National Register of Historic Places, http://www.nps.gov/nr/, Accessed 12/19/12.

The Section 106 process, as defined in 36 CFR Part 800, Protection of Historic Properties, is used to evaluate impacts to historic properties. The Section 106 process includes the following basic steps:

- Initiate the Section 106 process
    - Determine whether the proposed action is an undertaking
    - Begin consultation
- Identify historic properties
    - Establish the area of potential effect (APE)
    - Review APE for properties on or eligible to be on the NRHP
- Assess adverse effects
- Resolve adverse effects

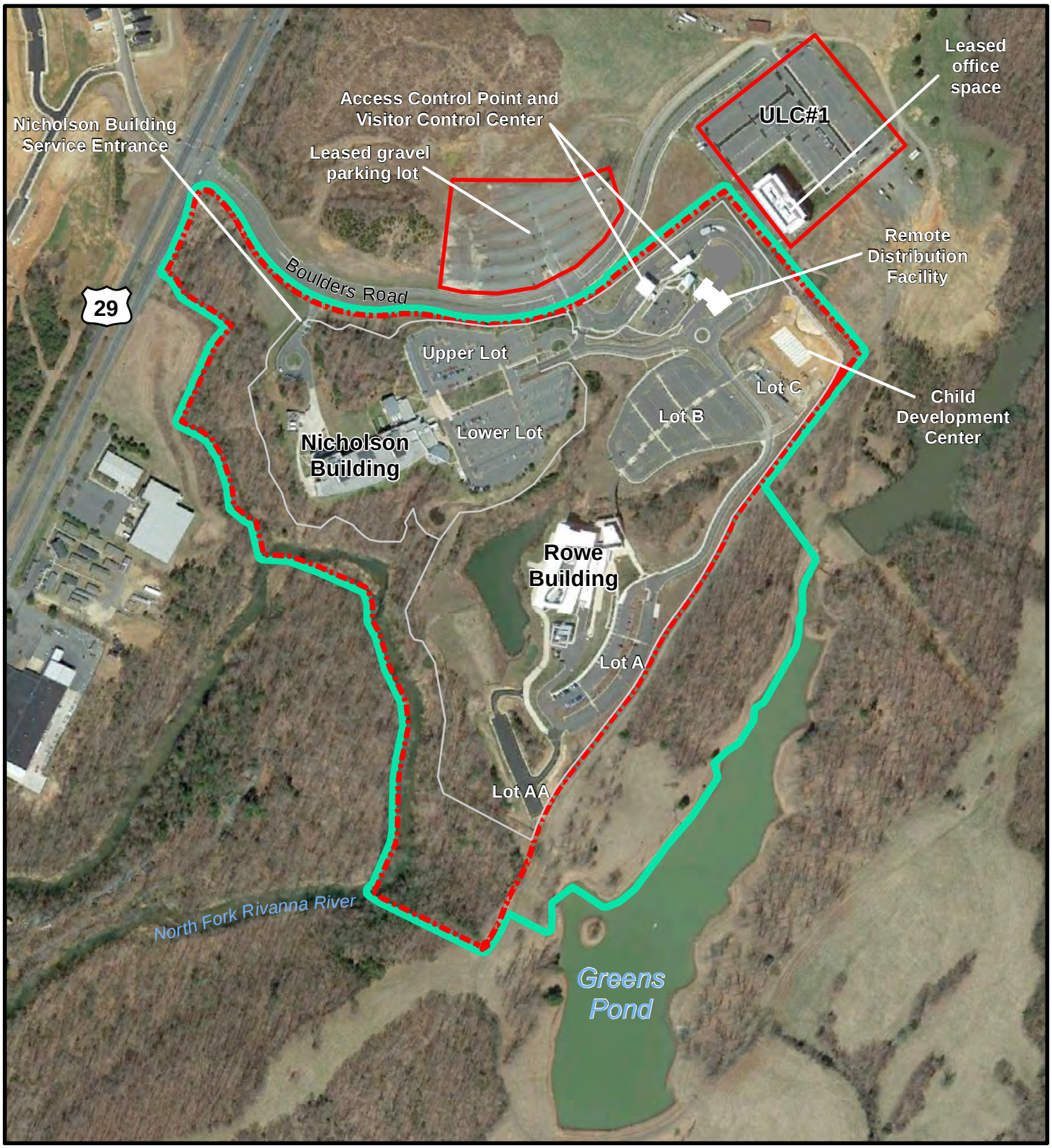
To initiate the Section 106 process, the federal agency determines whether the proposed action would be considered an undertaking and whether it has the potential to effect historic properties. The proposed action at Rivanna Station would be considered an undertaking because it involves federal funding and approval. The proposed action also has the potential to affect historic properties because it requires ground disturbance.

Once it is determined that the proposed action would be an undertaking, consulting parties are identified. The consulting parties must include the State Historic Preservation Officer (SHPO). The SHPO for the Commonwealth of Virginia is a gubernatorial appointee within the Virginia Department of Historic Resources (VDHR). Other consulting parties include the Catawba Indian Nation, Eastern Band of Cherokee Indians, Tuscarora Nation of New York, United Keetoowah Bank of Cherokee Indians of Oklahoma, and the Albemarle County Department of Community Development. Consultation with the consulting parties was conducted concurrently with the development of this EA.

The next step in the Section 106 process is to identify historic properties. This step is equivalent to establishing the affected environment and is discussed in the next section. The last two steps assess adverse effects and resolve adverse effects, are discussed in Section 3.8.3, Environmental Consequences on the Alternatives on Historic Properties.

3.8.1 Affected Environment

The identification of historic properties begins with determining the APE. The APE is the area where the alternatives may cause changes in the character or use of a historic property. As shown on **Figure 3-18**, the preliminary APE for this EA includes the existing facility and the approximately 14 acre site between the existing facility and Greens Pond.



Legend

- Preliminary Area of Potential Effect
- Station Boundary
- Leased Facilities
- Station Fenceline

Figure 3-18
Preliminary Area of Potential Effect

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 02/24/15

3.8.1.1 Historic Architectural Resources

There are no NRHP listed or eligible architectural resources within the existing facility portion of the APE.[88] Ordinarily, properties that are less than 50 years old are not considered eligible for listing.[89] Properties less than 50 years may be eligible if they are part of a historic district or are of exceptional historic significance. None of the buildings on the existing property are 50 or more years old. The existing Nicholson Building was completed in 2001 and the other facilities were constructed thereafter. Furthermore, none of the existing buildings are integral parts of historic districts nor are they of exceptional historic importance.

A cultural resources survey of the remaining 14 acre site in the APE was completed in 2013. No eligible historic architectural sites were identified within the 14 acre site.

3.8.1.2 Archaeological Resources

The existing facility portion of the APE and an expansion area north of Boulder Road were surveyed in 2003 and 2006 for the purposes of identifying archaeological resources. Only two archeological sites were identified. In 2003, one late nineteenth to twentieth century trash scatter (44AB0514) was identified. Three years later, in 2006, an additional survey identified Site 44AB0528. Site 44AB0528 is a cemetery dating from the late nineteenth to the early- to mid-twentieth century. These sites were evaluated and determined not eligible for NRHP listing. In 2007, the SHPO concurred with the determinations for both sites.[90]

In October 2013, a Phase I archeological survey of the remaining 14 acre site revealed no new isolated archaeological finds or new archaeological sites. Furthermore, no additional archaeological investigations of this site were recommended. [91] The Phase I survey of the 14 acre site is included in ***Appendix E*.**

3.8.2 Threshold of Significance

The threshold of significance for historic properties would be exceeded if an adverse effect to a resource on or eligible to be on the NRHP could not be resolved with the Virginia DHR and the Advisory Council on Historic Preservation.

[88] Department of the Army, Environmental Assessment, Expansion of Rivanna Station, Charlottesville, Virginia, March 2008, p. 3-38.
[89] 36 CFR Part 60, National Register Of Historic Places §60.4.
[90] VDHR File # 1997-0823.
[91] Cultural Resources, Inc., Phase I Cultural Resources Survey of Approximately 14.0 Acres Associated with the Proposed Expansion of the Rivanna Station Development Area, Albemarle County, Virginia, October 2013, p. 40.

3.8.3 Environmental Consequences of the Alternatives on Cultural Resources

3.8.3.1 No Action Alternative

As there are no historic properties on or eligible to be listed on the NRHP within the APE, the No Action Alternative would not adversely affect a historic property.

3.8.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

As there are no historic properties on or eligible to be listed on the NRHP within the APE, Alternative A would not adversely affect a historic property.

The Army informed the consulting parties of this conclusion. The letters to and responses from the consulting parties are included in Appendix E. The SHPO concurred that there are no historic architectural properties located at Rivanna Station. However, the SHPO requested that the Army consult with the VDHR on individual projects that involve ground disturbance because of the potential to affect an archaeological site yet to be identified. Therefore, in accordance with 36 CFR Part 800, the Army will continue to consult with the VDHR for ground disturbing projects.

Albemarle County also provided comments. The County noted that Alternative D proposed development near the Pritchett Cemetery (Site 44AB0528) and provided recommendations regarding the treatment of the cemetery. As discussed in Chapter 2, Alternative D was eliminated from further consideration and Alternative A does not include development near the Pritchett Cemetery.

3.8.3.3 Alternative B – Southeast Station Expansion Alternative

As there are no historic properties on or eligible to be listed on the NRHP within the APE, Alternative B would not adversely affect a historic property.

3.9 Socioeconomics

NEPA requires an analysis of impacts to the human environment, which includes economic and social elements in the affected area. Indicators such as demographics, income levels, education and employment are considered in assessing socioeconomic impacts. In addition, the potential for impacts related to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* and EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* are discussed in this section.

3.9.1 Affected Environment

3.9.1.1 Socioeconomic Indicators

Rivanna Station is located in Albemarle County. As the result of a prospering business community, the average unemployment rates for Albemarle County (4.6%) are consistently lower than those of the

Commonwealth (5.5%) and the Country (7.7%) (based on 2013 unemployment rates).[92] The County school system ranks in the top ten percent in the Commonwealth.[93] Albemarle County is also home to the renowned University of Virginia.

The population of Albemarle County is growing. Between 2000 and 2012, the population grew on average by approximately 1.5 percent per year.[94] As the population grows, the racial composition is changing with the Caucasian percentage decreasing and the Hispanic percentage increasing.[95] Population and demographic data for Albemarle County and the Commonwealth of Virginia is presented in **Table 3.10**.

Table 3.10

Albemarle County Population and Demographics

	Albemarle County	Virginia
Population (2013 estimate)	103,000	8,270,345
Persons per square mile, 2010	137.3	202.6
Housing		
Housing Units, 2013	43,500	3,412,460
Households, 2009-2013	37,964	3,022,739
Persons per household, 2009-2013	2.47	2.60
Race (percent)		
White alone, percent, 2013 (1)	82.7	70.8
Black or African American alone, percent, 2013 (1)	9.8	19.7
American Indian and Alaska Native alone, percent, 2013 (1)	0.4	0.5
Asian alone, percent, 2013 (1)	4.7	6.1
Native Hawaiian and Other Pacific Islander alone, percent, 2013 (1)	0.1	0.1
Two or More Races, percent, 2013	2.4	2.7
Hispanic or Latino, percent, 2013 (2)	5.7	8.6
White alone, not Hispanic or Latino, percent, 2013	77.8	63.6

Notes:
(1) Includes persons reporting only one race.
(2) Hispanics may be of any race, so also are included in applicable race categories.

Source U.S. Census Bureau: State and County QuickFacts, 2015.

Albemarle County has a highly educated and skilled workforce.[96] As shown in **Table 3.11**, Albemarle County has a higher percent of residents with high school and advanced education degrees than the Commonwealth of Virginia. Albemarle County has a strong public school system and excellent

[92] Albemarle County, Economic Development, Community Profile & Demographics, http://albemarle.org/navpages.asp?info=business15#economy, Accessed 3/26/15.
[93] Albemarle County, Economic Development, Community Profile & Demographics, http://albemarle.org/navpages.asp?info=business15#economy, Accessed 3/26/15.
[94] Albemarle County, Albemarle Comprehensive Plan Draft Summary, January 23, 2014, p. S-7.
[95] Albemarle County, Albemarle Comprehensive Plan Draft Summary, January 23, 2014, p. S-8.
[96] Albemarle County, Community Profile & Demographics, http://www.albemarle.org/navpages.asp?info=business15, Accessed 3/30/15.

opportunities for advanced education. "Albemarle County Schools were one of only 19 school divisions in the State to earn the VIP Governor's Award for Educational Excellence."[97] Both the on-time graduation rates and percentage graduates continuing their education are high. Advanced education opportunities include the University of Virginia which has recognized commerce, law and business schools. "The University of Virginia supports the economic and cultural vitality of the community and makes substantial contributions to local governments and organizations."[98]

As shown in Table 3.11 the medium household and per capita income is higher in Albemarle County than in the Commonwealth. Albemarle County also has a lower percent of people living below the poverty level that the Commonwealth.

Table 3.11
Albemarle County Education and Income

	Albemarle County	Virginia
Education		
Bachelor's degree or higher, percent of persons age 25+	52.2%	35.2%
High School Graduate or higher, percent of persons age 25+	91.4%	87.5%
Income		
Median Household Income, 2009-2013	$67,725	$63,907
Per capita money income in past 12 months (2013 dollars), 2009-2013	$37,239	$33,493
Persons below the poverty level, 2009-2013	10.2%	11.3%

Source U.S. Census Bureau: State and County QuickFacts, 2015.

The County expects the population to increase likely because of growth at the University of Virginia and with local federal defense agencies.[99] The County also expects that unemployment will continue to be low and that incomes will continue to be higher than most residents in the Commonwealth and in the Country.[100] Based on these and other expected changes in the community, the County developed a vision statement and is in the process of updating their comprehensive plan with strategies to achieve this vision. The County's vision for the future is: "Anchored by a strong economy and excellent education system, Albemarle envisions a thriving County that honors its rural heritage, scenic beauty, and natural and historic resources while fostering attractive and vibrant communities."[101]

3.9.1.2 Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, directs federal agencies to identify and assess disproportionate impacts to children's environmental health and safety

[97] Albemarle County, Getting to Know Albemarle County, http://www.albemarle.org/navpages.asp?info=business2, Accessed 3/30/15.
[98] University of Virginia, Contributing to Local Governments and Organizations, http://www.virginia.edu/communityrelations/impact.html, Accessed 3/30/15.
[99] Albemarle County, Albemarle Comprehensive Plan Draft, January 23, 2014, p. 1.17.
[100] Albemarle County, Albemarle Comprehensive Plan Draft, January 23, 2014, p. 1.17.
[101] Albemarle County, Albemarle Comprehensive Plan Draft, January 23, 2014, p. 2.3.

risks. EO 13045 states that, "'Environmental health risks and safety risks' mean risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to)." Therefore, the assessment of potential air quality, hazardous materials and water quality impacts are pertinent to this category.

3.9.1.3 Environmental Justice

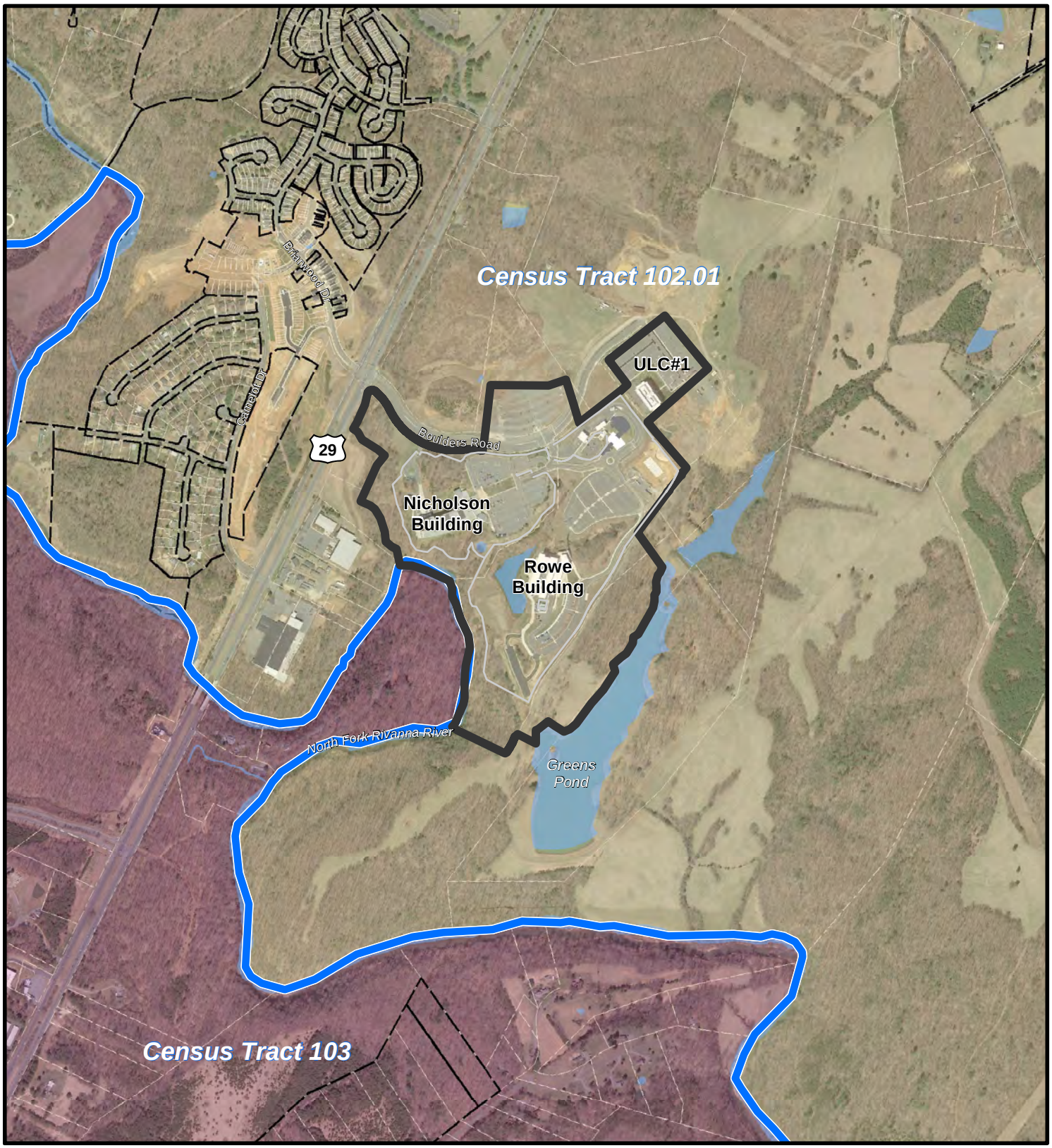
EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, requires federal agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate placement from any adverse effects by Federal policies and actions on these populations.

Minority refers to people who classified themselves as American Indian or Alaskan Native; Asian or Pacific Islander; African Americans or Black, not of Hispanic origin; or Hispanic. In accordance with CEQ guidance, minority populations are defined as areas where racial minorities comprise 50 percent or more of the total population or the minority population percentage of the affected area is meaningfully greater than the general population in the area.[102]

The minority composition of the potentially affected areas near Rivanna Station was reviewed to determine whether the communities would be considered minority populations. As shown in **Figure 3-19,** Rivanna Station is located within Census Tract 102.01 and borders Census Tract 103 to the southwest. Therefore, the minority composition of these census tracts was considered. As shown in **Table 3.12,** the minority population in the subject census tracts does not exceed 50 percent. Furthermore, the minority population in the census tracts is similar to that in the general area (the County). Therefore, neither of the census tracks was considered a minority population.

CEQ guidance does not establish similar thresholds to define low-income communities. Therefore, the Census Bureau's poverty data for the nearby communities was reviewed and compared to the data for Albemarle County. As shown in **Table 3.13**, the percentage of individuals and families living below the poverty level in the subject census tracts is very low and lower than Albemarle County. Therefore, neither of the census tracks was considered a low-income population.

[102] Council on Environmental Quality, Environmental Justice Guidance Under the National Environmental Policy Act (December 10, 1997), p. 25.



Legend

- General Study Area
- Station Fenceline
- Census Tract Boundary
- Parcel Boundary
- Subdivisions

Figure 3-19
Census Tracts

N

0 260 520 1,040 Feet

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13, Albemarle County GIS
Prepared on 04/09/15

Table 3.12

Minority Population in Census Tracts Surrounding Rivanna Station

Subject	Census Tract 102.01		Census Tract 103		Albemarle County	
	Includes Rivanna Station		Adjacent to Rivanna Station			
Population	4,590		8,728		100,636	
One race	4,462	97.2%	8,345	95.6%	97,702	97.1%
White	3,671	80.0%	7,045	80.7%	82,359	81.8%
Black or African American	439	9.6%	444	5.1%	9,607	9.5%
American Indian and Alaska Native	0	0.0%	0	0.0%	357	0.4%
Asian	131	2.9%	654	7.5%	4,210	4.2%
Native Hawaiian and Other Pacific Islander	0	0.0%	0	0.0%	14	0.0%
Some other Race	221	4.8%	202	2.3%	1,155	1.1%
Two or more races	128	2.8%	383	4.4%	2,943	2.9%
Hispanic or Latino (of any race)	361	7.9%	217	2.5%	5,589	5.6%
Not Hispanic or Latino	4,229	92.1%	8,511	97.5%	95,047	94.4%
% Minority (Non-White)	*20.1%*		*19.3%*		*18.1%*	

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey.

Table 3.13

Median Household Income and Percent Below Poverty Level in Census Tracts Surrounding Rivanna Station

Subject	Census Tract 102.1	Census Tract 103	Albemarle County
	Includes Rivanna Station	Adjacent to Rivanna Station	
Total Households	1,653	3,124	37,964
Median Household Income (2013 Inflation-Adjusted Dollars)	$83,220	$80,789	$67,725
Population for whom poverty status is determined	4,590	8,689	93,901
Percent Below Poverty Level – Individuals	4.9%	3.1%	10.2%
Number of Families	1,284	2,329	24,504
Percent Below Poverty Level – Families	3.3%	2.2%	6.8%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey.

3.9.2 Threshold of Significance

The threshold of significance for socioeconomic impacts would be exceeded in the event the alternative would result in any of the following:

- Substantial change to location or distribution of population;
- Substantial change in income, employment or tax base;
- High and adverse health or safety risks that would disproportionately affect children; or
- High and adverse human health or environmental impacts that would disproportionately affect minority and low-income population.

3.9.3 Environmental Consequences of the Alternatives on Socioeconomics

3.9.3.1 No Action Alternative

With the No Action Alternative, no development would occur at Rivanna Station. Therefore, the No Action Alternative would not result in socioeconomic impacts or cause disproportionate impacts to children, minority populations or low-income populations.

3.9.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

Alternative A would not affect location or distribution of population, income, employment or tax base within Albemarle County because there are no anticipated mission changes or additional missions that would result in large increases in personnel in the foreseeable future. The number of employees would remain approximately the same with only minor fluctuations due to changes in contingency staffing.

Alternative A would not be expected to result in high and adverse health or safety risks that would disproportionately affect children because Alternative A would cause only minor changes in air quality, water quality and no changes in hazardous materials or waste.

Disproportionate affects to minority or low-income populations would not occur because the potentially affected census tracts are not considered minority or low-income populations.

3.9.3.3 Alternative B – Southeast Station Expansion Alternative

Alternative B would not affect location or distribution of population, income, or employment within Albemarle County because there are no anticipated mission changes or additional missions that would result in large increases in personnel in the foreseeable future. The number of employees would remain approximately the same with only minor fluctuations due to changes in contingency staffing.

Alternative B would have a minor effect on the tax base because the 14 acre parcel would be acquired by the Army and as a result would not yield future tax revenues.

Alternative B would not be expected to result in high and adverse health or safety risks that would disproportionately affect children because Alternative B would cause only minor changes in air quality, water quality and no changes in hazardous materials or waste.

Disproportionate affects to minority or low-income populations would not occur because the potentially affected census tracts are not considered minority or low-income populations.

3.10 Traffic and Transportation

3.10.1 Affected Environment

The affected environment in terms of traffic and transportation includes the area bounded by Route 29 to the west, Boulders Road to the north of Rivanna Station, and all areas within the Station and land leased to the northeast off Boulders Road.

3.10.1.1 Transportation Network

The transportation network within and adjacent to Rivanna Station consists of roadways, parking, and pedestrian walkways.

Vehicular Access to Rivanna Station

The only vehicle access to Rivanna Station is provided from Boulders Road via Route 29. Boulders Road is a divided, four lane collector road that runs east from a signalized intersection at Route 29. The section of Route 29 which intersects with Boulders Road is a four-lane divided road with a depressed median, and is also known as Seminole Trail. Route 29 runs northeast to Washington, D.C. and south to Charlottesville, VA, and connects Rivanna Station to commercial centers and residential areas located north and south of Rivanna Station, to the city center of Charlottesville proper, and to Interstate Highway 64 to the south and Interstate Highway 66 to the north.

All personally owned vehicles (POVs) and service vehicles pass through the Boulders Road/Route 29 intersection to access Rivanna Station and the commercial development (ULC #1). There is a signalized intersection on Boulders Road at the entrance to Rivanna Station. At this intersection, vehicles may either turn into a leased parking area north of Boulders Road, proceed straight to the leased office space (ULC #1) or turn right into Rivanna Station. Vehicles turning into Rivanna Station proceed to an Access Control Point. There is also a separate service delivery entrance off Boulders Road for the Nicholson Building.

Transit

There are currently no daily fixed-route scheduled public transportation services available to Rivanna Station. Alternatives to single occupancy vehicles include independent for hire taxi and livery services, Albemarle County's JAUNT and Greene County's transit service, on-demand services available for human service agencies and county residents who are disabled. The Charlottesville Area Transit (CAT) does operate fixed route bus service along Route 29 north in Albemarle County, but the closest route terminates at the commercial development off Hilton Heights Road, more than five miles south of Rivanna Station.

RideShare

RideShare is a program of the Thomas Jefferson Planning District Commission (PDC) that promotes ridesharing and other transportation alternatives in the Charlottesville region. "RideShare's current services are focused primarily on ride matching services to facilitate carpooling and telework among commuters that work outside of the home."[103] Free commuter matching is provided to anyone who lives, works, or attends school in the Thomas Jefferson PDC and the Central Shenandoah PDC. RideShare also provides access to three vanpool programs and Guaranteed Ride Home (GRH) service to anyone who commutes at least two days each week via carpool, vanpool, transit or bicycle.[104] National Ground Intelligence Center participates in RideShare as an employer partner and is able to enlist RideShare's services in developing a customized traffic reduction program and promoting carpooling.[105]

Pedestrian and Bicycle Access

There are no sidewalks on either side of Route 29 and none between Route 29 and the main entrance off of Boulders Road. The only sidewalk along Boulders Road is on the south side connecting the main station access point to the leased office space to the northeast (ULC #1). To accommodate bicycles, both the Rowe Building and the Nicholson Building provide outdoor bike racks.

Interior Circulation and Parking

Rivanna Station is served by a principal Access Control Point that connects to a roundabout that distributes traffic onto two primary roadways, one connecting to the Nicholson Building and associated parking areas (Army Way) and one connecting to the Rowe Building and associated parking areas (Defense Way). These primary circulation roadways are connected to parking areas via secondary access driveways.

There are six primary parking lots located within Rivanna Station boundaries and two off-site parking lots that are leased, as shown on Figure 2-1. The on-site parking lots include an upper lot and a lower lot associated with the Nicholson Building; Lot A and Lot AA associated with the Rowe Building; and Lot B and Lot C, located at the north end of the Station near the Childhood Development Center and the RDF. The off-site parking lots are a gravel lot located north of Boulders Road and a parking lot associated with the leased office space at the ULC #1 Building. Within the Station boundary, there are approximately 1,300 spaces for vehicle parking, in addition to parking available at ULC #1 and the leased gravel lot. For the number of personnel at Rivanna Station, parking is considered in short supply on the Station and the overflow parking lot on the north side of Boulders Road is heavily used.

There are sidewalks within the Station complex and the leased parking and office areas which connect parking lots to Station buildings.

[103] Charlottesville RideShare, Long-Range Transportation Demand Management (TDM) Plan Working Draft Report, Plan, February 2010, p. 2-21.
[104] Charlottesville RideShare, Long-Range Transportation Demand Management (TDM) Plan Working Draft Report, Plan, February 2010, pp. 2-25 and 2-26.
[105] Charlottesville RideShare, Long-Range Transportation Demand Management (TDM) Plan Working Draft Report, Plan, February 2010, pp. 2-20 and 2-27.

Current Conditions

Detailed traffic analysis was performed as part of the 2008 EA to assess the effects of the increased personnel associated with the relocation of the JUIAF mission to Rivanna Station. The intersection of Boulders Road and Route 29 was determined to be the intersection of interest as traffic increases from local development in the future.

Studies cited in the 2008 EA show a projected Level of Service (LOS) C for this intersection out to the year 2025. A LOS C rating is considered very acceptable for an urbanized area. The studies done in support of the 2008 EA assumed projected development at Rivanna Station, the Boulders Road Business Park and residential development to the west of Rivanna Station, and determined that any degradation in LOS at this intersection would be mostly due to natural traffic growth in the area and would not be a result of mission growth at Rivanna Station. Accordingly, the 2008 EA was able to demonstrate that the adverse effects on regional and local traffic due to the current level of development at Rivanna Station would be considered minor.

Based on VDOT 2013 Annual Average Daily Traffic (AADT) volume estimates, the AADT on Route 29 at the segment which includes the intersection with Boulders Road (from Camelot Drive to the Greene County Line – 2.89 mile segment) was 33,000.[106] The AADT was 37,000 on the segment just south of Boulders Road, between Airport Road and Camelot Drive (1.8 mile segment)[107].

3.10.1.2 Surrounding Transportation Studies, Plans and Programs

Several transportation studies, plans and programs were considered in determining the potential for future transportation development near Rivanna Station.

Route 29 Corridor Study

At the request of Virginia's Commonwealth Transportation Board, VDOT prepared a multi-modal transportation study to examine the functionality of Route 29 from the Virginia/North Carolina boundary to Interstate 64.[108] The Route 29 Corridor Study examines the need for transportation improvements and presents a vision for the corridor. The vision includes goals such as access point control, enhancing overall mobility and reducing congestion, and expanding travel mode choices. The study outlines steps, planning tools and concepts in order to implement the vision. This study does not look at individual transportation projects, but rather at the methods in which the transportation functionality of the corridor can be improved to meet the needs of all those who use it.[109]

[106] VDOT, 2013 Virginia Department of Transportation Daily Traffic Volume Estimates including Vehicle Classification Estimates, Jurisdiction Report 02, 2023, p. 10.
[107] VDOT, 2013 Virginia Department of Transportation Daily Traffic Volume Estimates including Vehicle Classification Estimates, Jurisdiction Report 02, 2023, p. 9.
[108] VDOT, Route 29 Corridor Study, December 17, 2009, Executive Summary.
[109] VDOT, http://www.virginiadot.org/projects/culpeper/route_29_corridor_study.asp, Accessed 3/29/15.

The study identified the northern Albemarle County/Charlottesville Area section of Route 29 "as one of the key safety and congestion locations in the entire corridor."[110] Recommendations to relieve congestion included creation of parallel frontage roads, limitations on access points, addition of transit options and expansion of pedestrian and bicycle networks.

Places29 Master Plan and the US 29 North Corridor Transportation Study

The US 29 North Corridor Transportation Study was prepared in conjunction with the *Places29* Master Plan. The developers of *Places29* recognized the importance of linking transportation and land use planning.[111] The objective of the *US 29 North Corridor Transportation Study* was to develop a context - sensitive multimodal transportation plan for Route 29 between Route 250 and the Greene County boundary. This study was incorporated into the *Places29* Master Plan.

The Master Plan provides general guidance for the next 20 years to address existing infrastructure needs, in order to support growth and development for the ultimate Master Plan vision. The *Places29* Master Plan includes projects along Boulders Road. "The Boulders Road/Piney Mountain Loop road will be a two-lane avenue with onstreet parking and bike lanes on both sides."[112] The Boulders Road/Piney Mountain Loop would extend Boulders Road north and then loop back west to intersect with Route 29 at the existing intersection with Austin Drive to the west. Additionally, the Master Plan includes a Bus Rapid Transit service on Route 29 that eventually extends to Boulders Road.[113] Finally, the *Places29* Parks and Green systems Map shows a proposed multi-use path along Route 29 that extends past Rivanna Station to Austin Drive and a proposed trail on the 14 acre site along Greens Pond.

Charlottesville-Albemarle Metropolitan Planning Organization Fiscal Year 2015 Transportation Improvement Program

The Charlottesville-Albemarle Metropolitan Planning Organization Fiscal Year 2015 Transportation Improvement Program (TIP) is a prioritized list of transportation projects for federal fiscal years 2015 through 2018.[114] The TIP includes the Route 29 Solutions projects package, which consists of eight highway projects. The project package was approved for funding by the Commonwealth Transportation Board in June 2014, and approved by the Albemarle County Board of Supervisors, Charlottesville City Council, and the Metropolitan Planning Organization.[115] The projects represent significant steps to reduce congestion on the Route 29 corridor in the Charlottesville/Albemarle County region. Projects were selected based on input from local governments, residents and businesses in communities along

[110] VDOT, Route 29 Corridor Study, December 17, 2009, p. 42.
[111] Albemarle County, Places29: A Master Plan for the Northern Development Areas, adopted February 2, 2011, p. 1-6.
[112] Albemarle County, *Places29*: A Master Plan for the Northern Development Areas, adopted February 2, 2011, p. 4-36.
[113] Albemarle County, *Places29*: A Master Plan for the Northern Development Areas, adopted February 2, 2011, p. 4-28.
[114] Thomas Jefferson Planning District Commission, http://www.tjpdc.org/transportation/tip.asp, Accessed 3/29/15.
[115] Albemarle County Route 29 Solutions, http://www.albemarle.org/navpages.asp?info=rt29, Accessed 3/29/2015

the corridor. VDOT issued notice to proceed on March 4, 2015 to complete final design and construction of three of the Route 29 Solution Projects: Route 29 Widening to six lanes from Polo Grounds Road to Towncenter Drive; Berkmar Drive Extension to Towncenter Drive; and the Route 29/Rio Road Grade-Separated Intersection. [116] None of the Route 29 Solutions projects are within the vicinity of Rivanna Station, with the nearest being the Berkmar Drive extension and Route 29 widening to Towncenter Drive, approximately 2.7 miles south of Boulders Road on Route 29. [117]

VDOT Six-Year Improvement Plan

The VDOT Six-Year Improvement Program (SYIP)[118] lists transportation projects and estimated funding for the next six years in the state of Virginia. The SYIP is developed each year by the Commonwealth Transportation Board (CTB), which hosts public meetings around the state each fall to hear comments on transportation investments and critical needs of each region that help guide funding decisions and the development of the SYIP. There are no projects in the FY 2015-2020 SYIP located in the vicinity of Rivanna Station and Boulders Road. [119]

3.10.2 Threshold of Significance

The threshold of significance for traffic and transportation impacts would be exceeded if the alternative would result in either of the following:

- Substantial degradation of level of service; or
- Severance of an existing major route for bicycles or pedestrians.

3.10.3 Environmental Consequences of the Alternatives on Traffic and Transportation

3.10.3.1 No Action Alternative

The No Action Alternative would not impact local roads, interior circulation, parking, or pedestrian facilities.

3.10.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

Alternative A would have little or no impact on existing traffic on Route 29 or at the signalized intersection of Route 29 and Boulders Road. There are approximately 2,600 Department of Defense and contractor employees at Rivanna Station and ULC #1. There are no anticipated mission changes or additional missions that would result in large increases in personnel in the foreseeable future.

[116] VDOT, http://www.virginiadot.org/newsroom/culpeper/2015/vdot_issues_notice_to80502.asp, Accessed 3/29/15.
[117] VDOT, Route 29 Solutions. 2015. http://route29solutions.org/default.asp, Accessed 1/22/2015
[118] VDOT, Six Year Improvement Program, Project search, http://syip.virginiadot.org/Pages/allProjects.aspx.
[119] The only project in Albemarle County even near Boulders Road was the Bridge Replacement of Dickerson Road over the Rivanna River (on other side of Route 29 behind the residential developments).

Therefore, the number of employees would remain approximately the same with only minor fluctuations due to changes in contingency staffing.

It is probable that new tenants will occupy ULC #1 and based on zoning approvals it is possible that another office building and an apartment building will be constructed adjacent to ULC #1. Traffic associated with this development would increase activity at the intersection of Route 29 and Boulders Road. However, the zoning approval for this development included mitigation for potential traffic impacts.

> "In order to mitigate traffic impacts resulting from the Project, the Owner shall design and construct to Virginia Department of Transportation ("VDOT") road standards a second left turn lane on the southbound side of Route 29 at its intersection with Boulders Road, in the location shown on the Application Plan and design and construct all other lane configurations at the intersection of Route 29 and Boulders Road as determined by VDOT. Construction or installation of all improvements required by this Proffer shall be completed and accepted by VDOT within one (1) year after approval by the County of the first final site plan or subdivision plan for the Project."[120]

The second left turn lane on the southbound side of Route 29 has been constructed. In addition, since ULC #1 was constructed, it is presumed that all lane configurations at the intersection of Route 29 Boulders Road were constructed to VDOT's satisfaction. Therefore, even with the additional development in the vicinity of ULC #1, there would not be a substantial degradation in the level of service at the intersection of Route 29 and Boulders Road with Alternative A.

Traffic and circulation within the Station would change as a result of redeveloping a portion of the existing parking lots into parking structures and a warehouse facility. It is presumed that these facilities would be designed to maintain interior circulation and not degrade the level of service on interior roadways.

Future Albemarle County improvements could decrease POV traffic at Rivanna Station. As previously discussed, *Places29* includes Bus Rapid Transit service on Route 29 that will eventually extend to Rivanna Station, a proposed multi-use path along Route 29 that extends past Rivanna Station to Austin Drive, and a proposed trail adjacent to Greens Pond.

Alternative A would not impact an existing or future route for bicycles or pedestrians. Furthermore, Alternative A provides a new recreational trail for employee use.

3.10.3.3 Alternative B – Southeast Station Expansion Alternative

As with Alternative A, Alternative B would have little or no impact on existing traffic on Route 29 or at the signalized intersection of Route 29 and Boulders Road. Traffic and circulation would change with the Station due to the construction of a new parking facility and warehouse facility on the 14 acre site. As

[120] County of Albemarle to Wendell Wood, RE: ZMA2008-00004/SP2008-00045/SP2008-00046 NGIC Expansion Tax Map 33, Parcel 1D (portion), November 21, 2008.

with Alternative A, it is presumed that these facilities would be designed to maintain interior circulation and not degrade the level of service on interior roadways. Alternative B would also provide a new recreation trail, and even though the 14 acre site would be acquired with Alternative B, the County could still provide a public trail between the proposed Rivanna Station fence and Greens Pond.

3.11 Utilities

Utilities were reviewed to determine if the alternatives would change demand and if so, whether the change in demand could be accommodated.

3.11.1 Affected Environment

Existing utilities at Rivanna Station include underground electric, water, sewer, stormwater, natural gas and communications utilities.

Electricity is purchased by Fort Belvoir from Rappahannock Electric Cooperative, a member-owned utility that provides electric service to nearly 160,000 connections in portions of 22 Virginia counties.

Potable water is supplied to Rivanna Station by the Albemarle County Service Authority (ACSA) from the Rivanna Water and Sewer Authority's (RWSA) North Fork Rivanna Water Treatment Plant located approximately 4,500 feet west of the site. The ACSA provides water distribution and wastewater collection services to over 18,000 customers, with over 340 miles of waterline and around 250 miles of sewer line within the service area, including the urban areas of Albemarle County and other nearby communities.[121] Water is drawn from a protected watershed contained almost entirely within the County's borders. The northern portion of Albemarle County's Designated Development Area, including Rivanna Station, is served by an intake on the North Fork Rivanna River with its own water treatment plant with a capacity of 2 million gallons per day (MGD). The average consumption in 2012 was 0.337 MGD.[122]

For sanitary sewer service, wastewater is pumped via the new North Fork Regional Pump Station to the Moores Creek Advanced Waste Water Treatment Plant (AWWTP), which is the main treatment facility for Charlottesville and the County's Development Areas. The permitted capacity of the Moores Creek AWWTP is 15.0 MGD with an average flow of 9.33 MGD in 2012.[123]

The Nicholson Building is served via a gravity sewer main that exits the building to the west and generally follows the service drive alignment until it connects with a gravity main on the south side of Boulders Road. The Rowe Building, and Access Control Point and Visitors Control Center buildings are served via a forcemain that connects to an 8-inch gravity main between Rivanna Station and ULC #1. This main is located north of Boulders Road and connects to the primary sewer service line south of Boulders Road and west of the Nicholson Building service delivery drive.

[121] Albemarle County Service Authority, About Us, http://www.acsanet.com/about.html, Accessed 3/20/15.
[122] Albemarle County, Public Water and Sewer Facilities, p. R.9.2.
[123] Albemarle County, Public Water and Sewer Facilities, p. R.9.6.

Natural gas is used at Rivanna Station for heating of domestic hot water and for heating of water for space heating in the buildings. Natural gas is supplied to the Station by the City of Charlottesville Public Works, Public Utilities Division. Primary service to the Nicholson Building is via a gas main located in the median of Boulders Road that connects to a service line located along the delivery service drive. Primary service to the Rowe Building is via a gas main located on the north side of Boulders Road that enters the Station at the entrance drive and connects to a service line that follows Defense Way.[124]

The Station owns and maintains the entire communications system, including copper and fiber optic cables, utility poles, duct banks and switching systems. Systems are tailored to meet various mission requirements.[125]

In Albemarle County, solid waste is collected by private contractors and hauled to transfer stations. Solid waste from the transfer stations is disposed of at the Amelia County landfill. Both the transfer stations and the Amelia County landfill have sufficient capacity through 2030 assuming 25 % of solid waste is recycled.[126]

3.11.2 Threshold of Significance

The threshold of significance for utility impacts would be exceeded if the alternative would result in an increase in demand requiring substantial utility improvements. Long-term disruption of utilities in the neighboring areas would also result in a utility impact that would exceed the threshold of significance.

3.11.3 Environmental Consequences of the Alternatives on Utilities

3.11.3.1 No Action Alternative

The No Action Alternative would not alter current demands for utilities. The No Action Alternative does not include improvements to the internal water distribution that would improve water quality, pressure and supply.

3.11.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

Alternative A would increase the demand for utilities. The proposed warehouse facility, Joint Use Training Facility, Emergency Services Center as well as the expanded Nicholson Building would increase the demand for electricity, natural gas, and potable water. These facilities would also generate increased solid waste and wastewater. Based on the proposed increase in square feet of the facilities, it is estimated that Rivanna Station's demand could roughly increase by 40 percent. According to the electric and gas utilities there is adequate supply to serve the increased demand anticipated at Rivanna Station.[127] The Station's own communications system is adequate to meet current and anticipated demand. The regional demands for potable water, waste water treatment and solid waste disposal are

[124] USACE, Real Property Master Plan for Rivanna Station, 2015, Section 2.10.4.
[125] USACE, Real Property Master Plan for Rivanna Station, 2015, Section 2.10.6.
[126] Thomas Jefferson Planning District Commission, Solid Waste Management Plan, September 18, 2011, pp. 30-32.
[127] USACE, Real Property Master Plan for Rivanna Station, 2015, Sections 2.10.4 and 2.10.5.

well below the capacities of regional facilities. Therefore, because all of the regional services have sufficient capacity, the anticipated increase in demand for utilities would not likely require substantial utility improvements. In addition, sustainability measures would help offset the increases.

Per Army policy new construction must be built to a standard capable of achieving a U.S. Green Building Council Leadership in Energy Environmental Design (LEED) New Construction Silver rating. [128] Also, all projects will at a minimum be designed to reduce energy used 30 percent over the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 90.1 standards. Sustainable building technologies such as light motion-sensors and high-efficiency HVAC systems would be employed to reduce energy consumption. Strategies are also available to reduce the need for potable water and volume of wastewater generated at Rivanna Station. Currently, condensation wastewater produced by chiller operations at the Rowe Building is eliminated via the sewer system. The volume of wastewater could be reduced by using this water for landscape irrigation. Also, new facilities could be designed to use gray water (water from bathroom sinks) for landscape irrigation and toilet flushing.

While regional utility improvements would not be required, some local improvements/adjustments may be needed. In fact, Alternative A includes improvements to the Station's water distribution system that would enhance water quality, pressure and supply. Also, the ACSA offered the following comments:

> The water system that serves Rivanna Station currently operates at hydraulic grade line (HGL) of approximately 805' above sea level, but in the future the system will operate at an HGL of 652' above sea level. The water mains within Rivanna Station shall be designed to operate under both of these pressure conditions.
>
> The NGIC [Nicholson Building] Off-Site Sanitary Sewer Extension has limited wastewater sewer capacity available and upgrades may be required depending on projected wastewater flows produced from Rivanna Station.
>
> Any extension of the water and sewer system will require plan review and approval by the ACSA and modification of the Utility Agreement. [129]

Construction of Alternative A would temporarily increase utility use, particularly generation of solid waste. In accordance with AR 420-1, contracts for construction will include a performance requirement to divert a minimum of 50 percent of construction waste from landfill disposal. Also, contractors will be required to submit a construction and demolition waste management plan. Given the regional capacity, and diversion requirements, construction would not likely require substantial utility improvements.

Neither the operation nor construction of the proposed facilities would cause long-term disruption of utilities in the neighboring areas.

[128] Department of the Army, Sustainable Design and Development Policy Update, December 16, 2013.
[129] ACSA Letter to K Royce Bassarab dated December 8, 2014.

3.11.3.3 Alternative B – Southeast Station Expansion Alternative

Impacts to utilities with Alternative B would be similar to those under Alternative A. Increases in demand would likely occur but would not require substantial utility improvements or cause long term disruption of utilities. As with Alternative A, some local improvements to utilities would likely be needed. Alternative B also includes improvements to the Station's water distribution system that would enhance water quality, pressure and supply. ACSA offered one additional comment regarding alternative B regarding the 14 acre site to be acquired:

> The area of development associated with this alternative is outside of the current ACSA Jurisdictional Area. The Jurisdictional Boundary is established by the Albemarle County Board of Supervisors and expansion would require their review and approval.[130]

3.12 Hazardous Materials and Waste

The potential for the alternatives to generate, treat, store, disturb or dispose of hazardous materials and waste is considered in accordance with applicable laws. Relevant statutes include the Resource Conservation and Recovery Act (RCRA), as amended by the Federal Facilities Compliance Act of 1992, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended. RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA (Superfund) provides remedies for uncontrolled and abandoned hazardous waste sites.

"Hazardous materials are defined as any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that may cause an increase in mortality, a serious irreversible illness, incapacitating reversible illness, or pose a substantial threat to human health or the environment. Hazardous waste is defined as any solid, liquid, contained gaseous, or semi-solid waste, or any combination of wastes that poses a substantial present or potential hazard to human health or the environment."[131] Hazardous materials and waste may be released into the environment when improperly stored, transported, or otherwise managed. When released, they can significantly affect human health, safety and/or the environment.

3.12.1 Affected Environment

Hazardous materials including pesticides and fuels are stored and used at Rivanna Station. Pesticides including herbicides and insecticides may be used to manage pests on the Station. However, Fort Belvoir has developed an Integrated Pest Management (IPM) Plan which applies to Rivanna Station. "IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic health and environmental risks."[132] According to the IPM Plan, "Non-chemical control efforts will be used to the maximum extent possible before pesticides

[130] ACSA Letter to K Royce Bassarab dated December 8, 2014.
[131] USACE, NEPA Analysis Guidance Manual, May 2007, p. 311.
[132] Department of the Army, U.S. Army Garrison Fort Belvoir Integrated Pest Management Plan, Fiscal Year 2013, Executive Summary.

are used."[133] Fuel is stored at Rivanna Station in a 10,000-gallon diesel Underground Storage Tank (UST). The UST is appropriately registered with the VDEQ and is included in their petroleum facility database.

Federal and state environmental databases were reviewed to determine if there are any hazardous waste related sites within the general study area. According to EPA's *Enviromapper* database, the nearest location with hazardous materials handling, Badger Fire Protection Inc., was located across Route 29 from Rivanna Station and is now closed. One site, GE Intelligent Platforms, was listed on the federal Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS) facilities list and located within one mile of the Rivanna Station. Corrective Action was complete on August 23, 2010.

Van Derveer Rental Property, located south of Rivanna Station, across the Rivanna River, was listed on the State Leaking Underground Storage Tank (LUST) database and the Leaking Tanks (LTANKS) database. The site was listed as "Closed" by the Virginia DEQ. One petroleum release was reported at Rivanna Station. On 10/20/12, approximately 187 gallons of diesel fuel overflowed a newly installed emergency power generator tank system at the Rowe Building. The overflow occurred when fuel was transferred from the day tank under the generator to a separate above ground storage tank (AST). The diesel fuel flowed up out of the AST's vent pipe. According to VDEQ, "Cleanup involved application of absorbent pads, construction of an interceptor trench, removing a large section of a large retaining wall, and removal of approximately 239 tons of contaminated soil. The diesel fuel migrated overland less than 100' from the AST vent. Much of the fuel was recovered with absorbent material, but a significant volume soaked into the ground above the block retaining wall. Although it seeped through the retaining wall, no recoverable free product was encountered during the excavation of the wall and the soil behind it. Residual TPH concentrations in the excavated material ranged [were] as high as 18,400 mg/kg. Samples of the excavation walls and floor were either non-detect or less than 28 mg/kg, indicating that all soil which may pose a risk had been removed."[134] While there is a manmade lake roughly 900 feet from the release, prompt and thorough cleanup activities prevented the diesel fuel from reaching surface or groundwater. VDEQ closed the case on 1/3/2013 stating no further investigation or corrective action where required at the time.

An additional study was conducted for the 14 acre portion of the general study area. The property is outside the current Rivanna Station boundary. In order for the 14 acre site to be considered for acquisition, an Environmental Condition of Property (ECOP) report must be prepared. The ECOP report documents the physical and environmental condition of a site resulting from the past storage, use, release, and disposal of hazardous substances and petroleum products within or directly adjacent to the subject site. To complete the ECOP, a Phase I Environmental Site Assessment (ESA) was conducted. The purpose of the Phase I ESA is to identify recognized environmental conditions. Recognized environmental conditions (RECs) are defined as "…the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into

[133] Department of the Army, U.S. Army Garrison Fort Belvoir Integrated Pest Management Plan, Fiscal Year 2013, Executive Summary.

[134] VDEQ, Memorandum, Recommendation to Close Case PC 2013-6037 Joint –Use Intelligence Analysis Facility, 12/28, 2012.

structures on the property or into the ground, groundwater, or surface water of the property."[135] The Phase I ESA included review of historical photographs and topographic maps, visual inspection of the site, and evaluation of federal, state and local information regarding registered hazardous waste sites. The Phase I ESA revealed no evidence of RECs in association with the 14 acre site. The ECOP including the Phase I ESA are provided in ***Appendix F*.**

3.12.2 Threshold of Significance

The threshold of significance for hazardous materials and waste impacts would be exceeded if the alternative resulted in a substantial increase in hazardous waste. A substantial increase would occur if the amount of hazardous waste generated would cause Rivanna Station to be classified as a large quantity generator. A large quantity generator produces 1,000 kilograms or more per month of hazardous waste.

3.12.3 Environmental Consequences of the Alternatives on Hazardous Materials and Waste

3.12.3.1 No Action Alternative

The No Action Alternative would not generate or disturb hazardous waste nor would it increase the use of hazardous materials. Therefore, the No Action Alternative would not affect hazardous materials or waste.

3.12.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

Construction of Alternative A would cause a minor temporary increase in the use of fuels, oils and asphalt substances. If accidently released in high quantities, these substances could be considered hazardous. Therefore, the contractor will be required to minimize releases via control measures. Construction would be unlikely to disturb hazardous waste as no hazardous waste sites were identified within the study area. However, the contractor will be required to prepare a site Health and Safety Plan for each project to ensure the safety of construction workers at the construction site and to document procedures if hazardous materials are discovered during construction.

With the exception of fuel storage, Alternative A would not likely increase the amount of hazardous materials stored and used at Rivanna Station because the proposed projects do not change the facility mission nor increase staffing levels. Fuel storage would increase to accommodate new emergency generators. USTs would be installed to provide the required fuel storage. The USTs would meet the technical requirements in 9VAC25-580 et seq., entitled *Underground Storage Tanks: Technical Standards and Corrective Action Requirements*. Therefore, accidental release would not be expected.

3.12.3.3 Alternative B – Southeast Station Expansion Alternative

As with Alternative A, construction of Alternative B would cause a minor temporary increase in the use of fuels, oils and asphalt substances and therefore, the contractor will be required to minimize releases

[135] American Society for Testing and Materials (ASTM), Publication E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, 2005.

via control measures. Construction would be unlikely to disturb hazardous waste as no hazardous waste sites were identified within the study area.

With the exception of fuel storage, Alternative B would not likely increase the amount of hazardous materials stored and used at Rivanna Station because the proposed project does not change the facility mission nor increase staffing levels. As with Alternative A, Alternative B would require installation of USTs. The USTs would meet the requirement of 9VAC25-580 et. Seq.. Therefore, accidental release would not be expected.

3.13 Visual and Aesthetic Resources

Visual and aesthetic resources would be impacted if proposed development would contrast with the existing environment. Therefore, the aesthetics and views from, to and within Rivanna Station, and the potential for the alternatives to impact these resources are described in the following sections.

3.13.1 Affected Environment

Rivanna Station is located along a rapidly urbanizing corridor that is characterized by rolling hills and woodlands formerly used as pasture land. The visual environment around Rivanna Station varies depending on land use and development density.[136] Near the Station, there are major research and business parks, as well as low and high density residential development. **Photo 1** shows a view from Boulders Road toward the Camelot residential development.

Views from Route 29 are protected by Albemarle zoning and comprehensive planning. As discussed in Section, 3.2.1.3 *Zoning*, Route 29 in the vicinity of Rivanna Station is within the Entrance Corridor Overlay District. Also, according to *Places29*, the recommended corridor frontage condition is forested buffer along Route 29 in the vicinity of Rivanna Station.[137] **Photo 2** shows the views along Route 29 at the intersection with Boulders Road.

[136] Department of the Army, Environmental Assessment, Expansion of Rivanna Station, Charlottesville, Virginia, March 2008, p. 3-4.

[137] Albemarle County, Places29: A Master Plan for the Northern Development Areas, February 2, 2011, Chapter 7, Recommended Entrance Corridor Frontage Conditions.

Photo 1 - View of the Camelot Residential Development from Boulders Road

Photo 2 – Views from Route 29

Although located in a partially developed business park environment, the Station itself is in a secluded and remote environment surrounded by heavily forested area. Land features range from rolling hills to relatively steep stream valleys. The developed areas within the Station have an appearance similar to an office or research park with well-separated buildings, surface parking, lawns, and landscaping. In undeveloped areas of the Station, open space includes forest, stormwater management ponds, and former farm fields. As shown in **Photos 3** and **4**, the buildings are designed to fit well with the existing infrastructure and to enhance the landscape.

Photo 3 – Rowe Building

Photo 4 – Nicholson Building

3.13.2 Threshold of Significance

The threshold of significance would be exceeded if an aesthetic or visual effect would substantially contrast with the existing environment and agencies or the surrounding communities indicate the effect would be objectionable.

3.13.3 Environmental Consequences of the Alternatives on Visual and Aesthetic Resources

3.13.3.1 No Action Alternative

The No Action Alternative would not change the existing aesthetics or visual context.

3.13.3.2 Alternative A – On-Site Redevelopment – Preferred Alternative

With Alternative A, all proposed development would be constructed within the existing property and the Route 29 corridor forested buffer would not be affected. Most of the development would be accomplished by converting portions of existing surface parking lots to parking structures and new facilities. The Nicholson Building expansion, secondary entry and exit road and the Joint Use Training Facility would require removal of wooded areas. However, wooded buffers around these facilities would remain.

There would be changes to the views and aesthetics within the Station. As with the existing buildings, future facilities would be designed to fit well with the existing infrastructure and to enhance the

landscape. Distant views similar to that shown in **Photo 5** of the Station from the residential development on the other side of Route 29 may change. Instead of seeing the upper parking lot residents may see the proposed Emergency Services Center and the proposed communications tower. The view from ULC #1 would change. However, the views would not contrast with the business park environment. Therefore, the proposed development would not substantially contrast with the existing aesthetics or visual context.

Photo 5 – View from the Camelot Residential Development

3.13.3.3 Alternative B – Southeast Station Expansion Alternative

With the exception of the 14 acre site, impacts to visual and aesthetic resources with Alternative B would be similar to those under Alternative A. Alternative B includes the relocation of surface parking to and construction of a warehouse facility on the 14 acre site adjacent to Greens Pond. The site slopes down from the Rowe Building parking area. Structures/vehicles would be visible from the Rowe building but not from Boulders Road. Most of the vegetation of the 14 acre site would be removed. However, existing vegetation in the 100 foot buffer adjacent to Greens Pond would remain. This vegetation would partially block views of the new development from the other side of Greens Pond. However, the

development on the 14 acre site would likely be visible from higher elevations in the undeveloped hills surrounding the Station classified as neighborhood density and rural areas. Since the Rowe Building is also likely visible from these areas, the development on the 14 acre site would not substantially contrast with the existing environment.

3.14 Cumulative Effects

The Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Parts 1500 – 1508) require that cumulative impacts are addressed as part of the NEPA process. The CEQ Regulations define a cumulative impact as "…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."[138]

Cumulative effects analysis is resource specific and generally addresses environmental resources that would be affected by the alternatives under consideration. The key question is, do the effects of the proposed action on a particular environmental resource, when added to effects on the same resource due to other nearby actions, adversely impact that resource. Therefore, cumulative effects are assessed only for the environmental categories that would be impacted by the alternatives.

As discussed in Chapter 3, Alternatives A and/or B may result in impacts to: land use and zoning, air quality; noise; topography, soils and geology, water resources, biological resources, socioeconomics, traffic and transportation; utilities; hazardous materials and waste; and visual and aesthetic resources.

Reasonably foreseeable development in the vicinity of Rivanna was reviewed for its potential to contribute to cumulative effects. The Route 29 Solutions projects, zoning approvals and the *Places29* Master Plan were initially considered. The nearest Route 29 Solutions project would be approximately 2.7 miles south of Boulders Road on Route 29 and therefore, due to the distance from Rivanna Station was not considered in assessment of cumulative effects. Development of the area next to ULC #1 was considered because it would be immediately adjacent to Rivanna Station and the developer has received zoning approval for another office building and an apartment complex. Furthermore, the following improvements identified in the *Places29* Master Plan were considered due to their proximity to Rivanna Station:

- Boulders Road extension in a loop to intersect with Route 29 at the existing intersection with Austin Drive;
- Bus Rapid Transit service on Route 29 to Rivanna Station
- A multi-use path along Route 29 that extends past Rivanna Station to Austin Drive; and
- A trail on the 14 acre site along Greens Pond.

[138] CEQ, 40 CFR Parts 1500-1508, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, §1508.7.

3.14.1 Combined Potential Effects

Table 3.14 shows which of the impact categories could be subject to cumulative effects. A brief description of the anticipated cumulative effects follows the table.

Table 3.14
Potential for Cumulative Effects

Impact Category	Rivanna Station Alternatives A and B	Office Building and Apartment Complex	Boulders Road Extension, Bus Rapid Transit, Multi-Use Path and Trail	Potential Cumulative?
Land Use and Zoning	Minor	None	None	No
Air Quality	Minor	Minor	Minor Temporary	Yes
Noise	Minor Temporary	Minor Temporary	Minor Temporary	Yes
Topography, Soils and Geology	Minor	Minor	Minor	Yes
Water Resources	Minor	Minor	Minor	Yes
Biological Resources	Minor	Minor	Minor	Yes
Socioeconomics	Minor	None	None	No
Traffic and Transportation	Minor	None	Positive	No
Utilities	Minor	Minor	Minor	Yes
Hazardous Materials and Waste	Minor Temporary	Minor Temporary	Minor Temporary	Yes
Visual and Aesthetic Resources	Minor	Minor	Minor	Yes

Air Quality - Cumulative temporary air quality impacts could occur if the proposed projects are constructed at the same time. However, given the localized nature of construction emissions and the fact that the construction emissions for the Rivanna Station Alternatives would be far below the threshold of 100 tpy for criteria pollutant emissions, even the combined construction emissions would not likely exceed the threshold of significance. Cumulative stationary source emissions could result from the Rivanna Station Alternatives and the proposed office building and apartment complex. The resulting increase in emissions would likely be minor given the small amount of permanent emissions from Rivanna Station.

Noise - Cumulative temporary noise impacts could occur if all of the proposed projects are constructed as the same time. However, given the distances to sensitive receptors and the noise of traffic on Route 29, the combined noise impact would likely be minor.

Topography, Soils and Geology - All of the proposed projects would change topography. However, all of the proposed development would be located outside the Steep Slopes Overlay District to the maximum extent practicable. Potential soil erosion during construction of all projects would be minimized. Erosion and sediment control plans would be developed in accordance with Virginia's Erosion and Sediment Control Law and Regulations. Therefore, combined impacts to topography, soils and geology would be minimal.

Water Resources - All of the projects would cause an increase in impervious surfaces with the exception of the proposed Bus Rapid Transit and trail. Although the amount of impervious surfaces would increase, the impact to water quality would be minimal assuming appropriate stormwater quantity and quality control would be implemented. No wetlands would be impacted as it is presumed the development would be outside the 100 foot buffer in accordance with the Albemarle County Code Chapter 17 Article VI Stream Buffers. For projects that disturb more than 10,000 square feet, erosion and sediment control plans and stormwater management plans would be prepared in accordance with state and local regulations. Therefore, combined impacts to water resources would be minor.

Biological Resources - All projects would likely impact biological resources. Vegetation removal would be required for the Rivanna Station Alternatives, the apartment complex and the Boulders Road extension. Mitigation would be provided for the tree removal required to implement the Rivanna Station Alternatives. None of the projects would impact the federally listed endangered James spinymussel because they would only minimally indirectly affect the North Fork Rivanna River. While the extension of Boulders Road would require a bridge over Herring Branch, this bridge would be unlikely to affect the James spinymussel because no mussels were observed in Herring Branch during the mussel survey. It is presumed that no migratory species would be removed, damaged or destroyed and that tree habitat suitable for Indiana bats or Northern long-eared bats would be removed outside the time of year restriction window of April 1 to November 15. Therefore, combined impacts would be minor.

Utilities – Utility demand would increase with the Rivanna Station Alternatives, the office building and apartment complex and Boulders Road extension. However, given the capacity of the regional utilities, it is likely that the increase in demand would be relatively minor.

Hazardous Materials and Waste - Construction of all of the projects would cause a minor temporary increase in the use of fuels, oils and asphalt substances. If accidently released in high quantities, these substances could be considered hazardous. It is anticipated that the contractors will be required to minimize releases via control measures. Therefore, it is likely that the impact would be minor.

Visual and Aesthetic Resources - Visual quality and athletics would change but would presumably be compatible with the land use designated in the *Places29* Master Plan. As a result, the proposed development would not contrast with the planned aesthetics or visual context. Therefore, combined impacts would be minor.

4 Findings and Conclusions

4.1 Unavoidable Adverse Impacts

The implementation of the proposed action may result in unavoidable impacts to the environment. Chapter 3, *Affected Environment and Environmental Consequences*, discusses potential impacts resulting from Alternative A, Alternative B and the No Action Alternative. **Table 4.1** summarizes impacts of the alternatives on each environmental resource category.

Table 4.1
Summary of Environmental Impacts

Category	Alternative A: *On-Site Redevelopment-Preferred Alternative*	Alternative B: *Southeast Station Expansion*	No Action Alternative
Land Use and Zoning	None	Minor	None
Air Quality	Minor	Minor	None
Noise	Minor	Minor	None
Topography, Soils and Geology	Minor	Minor	None
Water Resources	Minor	Minor	None
Biological Resources	Minor	Minor	None
Historic Properties	None	None	None
Socioeconomics	None	Minor	None
Traffic and Transportation	Minor	Minor	None
Utilities	Minor	Minor	None
Hazardous Materials and Waste	Minor Temporary	Minor Temporary	None
Visual and Aesthetic Resources	Minor	Minor	None

4.2 Preferred Alternative

Alternative A On-Site Redevelopment is the Preferred Alternative because it would cause less damage to the biological and physical environment than Alternative B Southeast Station Expansion. Alternative A requires less vegetation removal and results in less additional impervious surface than Alternative B.

4.3 Best Management Practices, Mitigation and Avoidance Measures

The following best management practices, mitigation and avoidance measures will be implemented to minimize the unavoidable adverse impacts.

- Rivanna Station will require contractors to use best management practices to minimize construction air emissions including fugitive dust. Fugitive dust will be minimized in accordance with 9VAC5-50-90, *Standard for fugitive dust/emissions.* Control methods may include using water for dust control, covering open equipment used to transport materials, and removing spilled/tracked dirt from paved streets.

- Rivanna Station will submit erosion and sediment control plans for projects that would disturb 10,000 square feet or more of land to Fort Belvoir Directorate of Public Works for approval. The erosion and sediment control plans will include best management practices such as silt fencing, temporary stone construction entrances, and storm drain outlet protection.
- Rivanna Station will coordinate with Fort Belvoir's Urban Forester to provide tree protection in accordance with Fort Belvoir Policy Memorandum #27, Tree Removal and Protection. Rivanna Station will also provide mitigation for the loss of vegetation in accordance with Fort Belvoir Policy Memorandum #27. As such, all trees four inches and larger in diameter at breast height and any specimen trees will be identified prior to construction. Two new trees will be planted for each live tree four inches in diameter and larger. Specimen trees will be preserved in place to the extent possible.
- Rivanna Station will avoid and minimize impacts to wetlands when possible as part of the design of each of the proposed projects.
- Rivanna Station will conduct a survey for birds and active nest prior to construction to ensure that no migratory bird, active nests, egg or hatchling will be removed, damaged or destroyed.
- Rivanna Station will conduct a survey for Indiana bats and northern long-eared bats between May 15 and August 15, and Section 7 consultation with the FWS prior to removing the vegetation. The implementation schedule for construction should be developed such that the survey and Section 7 consultation are completed prior to initiation of construction.
- Tree removal would only occur outside the northern long-eared bat or Indiana bat active season (April 15 through September 15).
- Rivanna Station will pursue strategies to reduce the need for potable water and volume of wastewater generated at Rivanna Station. Strategies could include using condensation wastewater produced by chiller operations at the Rowe Building for landscape irrigation. Also, new facilities could be designed to use gray water (water from bathroom sinks) for landscape irrigation and toilet flushing.
- Rivanna Station will require contracts for construction to include a performance requirement to divert a minimum of 50 percent of construction waste from landfill disposal. Also, contractors will be required to submit a construction and demolition waste management plan.
- Rivanna Station will design the proposed projects to maintain interior circulation and not degrade the level of service on interior roadways.
- Rivanna Station will design the proposed facilities to fit well with the existing infrastructure and to enhance the landscape.
- Rivanna Station will design USTs to meet the technical requirements in 9VAC25-580 et seq., entitled Underground Storage Tanks: Technical Standards and Corrective Action Requirements.
- Rivanna Station will require the contractor to minimize the potential for release of fuels, oils, etc. during construction via control measures.
- Rivanna Station will require that construction equipment be inspected and cleaned prior to leaving the site to prevent introduction or spread of these invasive species.
- Rivanna Station will require the contractor to prepare a site Health and Safety Plan for each project to ensure the safety of construction workers at the construction site and to document procedures if hazardous materials are discovered during construction.

- Rivanna Station, in accordance with 36 CFR Part 800, will continue to consult with the VDHR for ground disturbing projects.

4.4 Permits and Other Requirements

The following permits and requirements may be necessary as a result of the implementation of the alternatives:

- Albemarle County's Comprehensive Plan Future Land Use Map - If Alternative B is pursued, Rivanna Station will request an amendment to the Albemarle County's Comprehensive Plan Future Land Use Map to designate the 14 acre expansion site as area for Office/Research & Development (R&D)/Flex/Light Industrial use.
- FAA Form 7460 – Rivanna Station will submit a Form 7460, Notice of Proposed Construction or Alternation, to the FAA when required under 14 CFR Part 77 §77.9.
- Rivanna Station will coordinate with the Virginia Department of Aviation when designing future facilities to prevent interference with pilot's safe ingress and egress and avoid creation of a hazard or impediment to using Charlottesville-Albemarle Airport.
- Stationary Source Permit - Rivanna Station will revise its existing permit to include any new stationary sources such as generators.
- Virginia's Erosion and Sediment Control Law and Regulations - For projects that would disturb 10,000 square feet or more of land, Rivanna Station will submit erosion and sediment control plans to Fort Belvoir Directorate of Public Works and then to VDEQ for approval.
- Virginia Stormwater Management Program - For projects that would disturb 10,000 square feet or more of land, Rivanna Station will submit stormwater management plans to Fort Belvoir Directorate of Public Works and then to VDEQ for approval.
- General Permit for Discharges of Stormwater and Construction Activities and associated Stormwater Pollution Prevention Plan (SWPPP) - For projects that would cause one or more acres of land disturbance, the construction contractor must apply for coverage under the General Permit for Discharges of Stormwater from Construction Activities and prepare a SWPPP.
- Energy Independence and Security Act (EISA) of 2007 - Rivanna Station will design proposed federal facilities that disturb more than 5,000 square feet of ground in accordance with EISA.
- Department of the Army, Sustainable Design and Development Policy Update - Rivanna Station will design proposed facilities to a standard capable of achieving a U.S. Green Building Council Leadership in Energy Environmental Design (LEED) New Construction Silver rating. Also, all projects will at a minimum be designed to reduce energy used 30 percent over the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 90.1 standards. Sustainable building technologies such as light motion-sensors and high-efficiency HVAC systems may be employed to reduce energy consumption and reduce emissions.
- Section 404 Wetland Permit - Based on survey data, it appears that neither Alternatives A nor B would directly affect Waters of the U.S. and therefore a Section 404 permit would not be required.

- Section 7 of the Endangered Species Act – Prior to construction, Rivanna Station will coordinate with the FWS regarding the potential to affect Indiana bats, northern long-eared bat and James spinymussel.
- Section 106 Historic Properties - Rivanna Station, in accordance with 36 CFR Part 800, will continue to consult with the VDHR for ground disturbing projects.
- Fort Belvoir Policy Memorandum #27, Tree Removal and Protection – Rivanna Station will provide a plan to the Fort Belvoir Directorate of Public Works showing all trees four inches and larger in diameter at breast height and any specimen trees that will be removed during construction. Two new trees will be planted for each live tree four inches in diameter and larger. Specimen trees will be preserved in place to the extent possible.
- Fish and Wildlife Director's Memo, Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers – Rivanna Station will design the proposed communication tower to avoid bird strikes in accordance with this guidance.
- VDEQ UST program – New USTs must be registered with the Virginia DEQ.
- Albemarle County Service Authority Jurisdictional Area – If Alternative B is pursued, Rivanna Station will request that the Albemarle County Board of Supervisors review and approval an expansion of the Jurisdictional Boundary to include the 14 acre expansion site.
- Albemarle County Service Authority Requirements:
    - The water system that serves Rivanna Station currently operates at hydraulic grade line (HGL) of approximately 805 feet above sea level, but in the future the system will operate at an HGL of 652 feet above sea level. The water mains within Rivanna Station shall be designed to operate under both of these pressure conditions.
    - The Nicholson Building Off-Site Sanitary Sewer Extension has limited wastewater sewer capacity available and upgrades may be required depending on projected wastewater flows produced from Rivanna Station.
    - Any extension of the water and sewer system will require plan review and approval by the Albemarle County Service Authority and modification of the Utility Agreement.

4.5 Conclusion

Alternative A is the Preferred Alternative because it would cause less damage to the biological and physical environment than Alternative B. The implementation of either Alternative A or B at Rivanna Station would not result in significant impacts to the human and natural environments. Accordingly, an Environmental Impact Statement (EIS) is not required. Since there are no significant impacts anticipated, a Finding of No Significant Impact (FNSI) will be prepared.

5 List of Preparers

The preparers involved in the development of this EA include Army coordinators and consultants listed in **Table 5.1** and **Table 5.2,** respectively.

Table 5.1

List of Army Coordinators

Name	Title
Gary Tysor, PE	Project Manager USACE, Norfolk District
Ashley Pilakowski	NEPA Coordinator, Environmental and Natural Resources Division, Directorate of Public Works, U.S. Army Garrison Fort Belvoir
Marc Russell	Project Manager, Environmental and Natural Resources Division, Directorate of Public Works, U.S. Army Garrison Fort Belvoir
Sybille Vega	Wetlands Specialist, Environmental and Natural Resources Division, Directorate of Public Works, U.S. Army Garrison Fort Belvoir
Susanna Ehlers	Air Quality Scientist, Environmental and Natural Resources Division, Directorate of Public Works , AECOM Contractor
Chris Landgraf	Deputy Director, Directorate of Public Works, U.S. Army Garrison Fort Belvoir
Michael C. Knight, PE	Facilities Manager & FSARS Safety Representative, FAC-1C, Field Support Activity Rivanna Station [JUIAF] Rivanna Station Charlottesville, VA
Wade Woolfrey	Rivanna Station Charlottesville, VA

Table 5.2

List of Consultants

Name	Education and Experience	Primary Responsibilities
HNTB Corporation		
Brian G. Pieplow, AICP, LEED AP BD+C	BS Urban Planning/AICP, LEED AP, 30 years of experience	Project Management and Master Planning Lead
Kim Hughes, PE	BS Civil Engineering/ PE, 27 years of experience	Quality Assurance (QA)/Quality Control (QC)
Barbara Bottiger, CEP	BS Civil /Environmental Engineering/ CEP, 21 years of experience	Document Development, Affected Environment/Environmental Consequences
Royce Bassarab, AICP	BS Urban and Regional Planning, 15 years of experience	Document Development, Purpose and Need and Alternatives Development
Caroline Pinegar, AICP	BA Historic Preservation, M.C.R.P. Masters in City and Regional Planning / AICP, 10 years of experience	Affected Environment/Environmental Consequences

Table 5.2

List of Consultants

Name	Education and Experience	Primary Responsibilities
Ryan Carey, EIT	BS Civil Engineering/ EIT, 4 years of experience	Document Development
Kent Miller	14 years of experience	GIS Analysis
Stantec Consulting Services, Inc. (Stantec)		
formerly Williamsburg Environmental Group, Inc. (WEG)		
Loretta Cummings, PhD	PhD Environmental Science/Public Policy/MS Biology, 32 years of experience	Habitat assessment
Sean Wender, PWD	MS/BS Biology, 19 years of experience	Indiana bat habitat assessment
Jason Mann	BS Forestry, 13 years of experience	Wetland delineation
Elizabeth J. Lawrence, PWD	BS Environmental Science, 11 years of experience	Phase I ESA, Regulatory Specialist
formerly Cultural Resources, Inc. (CRI)		
Brynn Stewart	MA/BA Anthropology, 11 years of experience	Cultural Resources
Ellen M. Brady	MA/BS Anthropology, 19 years of experience	Cultural Resources
Daguna Consulting LLC		
Brett J.K. Ostby	MS Fisheries and Wildlife Sciences, 15 years of experience	Mussel Survey

6 References

7 CFR Part 658, Farmland Protection Act,

16 USC Chapter 49, Fish and Wildlife Conservation, § 2901.

32 CFR Part 651, Environmental Analysis of Army Actions, §651.20(d).

36 CFR Part 60, National Register Of Historic Places, §60.4.

40 CFR Part 81, Designation of Areas for Air Quality Planning Purposes, §347.

40 CFR Parts 1500-1508, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act.

50 CFR Part 17, Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule; Final Rule and Interim Rule.

50 CFR Part 21, Migratory Bird Permits; Take of Migratory Birds by the Armed Forces, 2007, §21.3

50 CFR Part 600, Magnuson-Stevens Act Provisions, §600.10.

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APPENDIX A

Public and Agency Coordination

APPENDIX A
Public and Agency Coordination

Public and agency coordination is conducted as part of the National Environmental Policy Act (NEPA) process to ensure exchange of information relevant to the Proposed Action.

The following documents are included in this appendix:

- Attachment 1: Early Coordination Letters and Emails to Agencies
- Attachment 2: Agency Scoping Informational Document
- Attachment 3: Agency Scoping Meeting Presentation (November 20, 2014)
- Attachment 4: Agency Scoping Meeting Sign-In Sheet (November 20, 2014)
- Attachment 5: Agency Scoping Meeting Notes (November 20, 2014)
- Attachment 6: Agency Scoping Comments

Attachment 1:

Early Coordination Letters and Emails to Agencies

HNTB Corporation
The HNTB Companies
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2900 South Quincy Street
Suite 200
Arlington, VA 22206

Telephone (703) 824-5100
Facsimile (703) 671-6210
www.hntb.com

October 21, 2014

Mr. Troy Andersen
Virginia Field Office
U.S. Department of the Interior
Fish and Wildlife Service, Ecological Services
6669 Short Lane
Gloucester, VA 23061

Dear Mr. Andersen,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

Identification of potential issues through agency coordination is an important step in initiating the EA process. On behalf of U.S. Army Garrison Fort Belvoir, HNTB invites your comments and attendance at a forthcoming Agency Scoping Meeting. To facilitate meaningful participation in the scoping process, we are providing a Scoping Informational Document and conducting a scoping meeting for interested federal, state and local agencies and organizations. Fort Belvoir is requesting that interested federal, state and local agencies and organizations review the attached scoping document and provide comments. The scoping document provides background information; presents the preliminary purpose and need and alternatives; identifies the environmental impact categories most likely impacted; and provides a preliminary schedule.

Fort Belvoir will conduct an Agency Scoping Meeting on November 20, 2014 from 2:00 p.m. to 4:00 p.m. The Agency Scoping Meeting will be held at the following address:

Best Western Plus Charlottesville Airport Inn & Suites
Rivanna Room
5920 Seminole Trail
Ruckersville, VA 22968
(434) 985-1855

Project team members will give a brief presentation on project information including a discussion of the proposed alternatives being investigated as part of the master planning process. Attendance is encouraged

as this is an opportunity for attendees to learn more about the projects and communicate their issues and concerns regarding potential environmental impacts. Please feel free to forward this invitation to others within your organization who may wish to participate. In order to ensure that adequate meeting facilities are provided, please provide notice if you intend to attend the meeting in person before November 1st, 2014 via email to rbassarab@hntb.com.

Fort Belvoir welcomes comments regarding development of the EA. In order to identify issues early in the EA process, it is requested that all comments be provided by December 19, 2014. Comments may be submitted at the scoping meeting, mailed to the address listed below or provided via e-mail to rbassarab@hntb.com. If you determine that the Proposed Action would not impact your area of jurisdiction or expertise, written verification would be appreciated.

Best regards,

K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

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October 21, 2014

The Honorable Terry McAuliffe
Governor of Virginia
Governor's Office
1111 East Broad Street
Richmond, VA 23219

Dear Governor McAuliffe,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. Mike Coleman
Chairman
Virginia Commission on Military Installation and Defense
PO Box 1475
Richmond, VA 23218

Dear Mr. Coleman,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. Timothy Hulbert
Chamber President & Chief Executive
Charlottesville Regional Chamber of Commerce
Chair of the Board of Directors
209 5th Street NE
Charlottesville, VA 22902

Dear Mr. Hulbert,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

The Honorable Robert Bell
Virginia House of Delegates
Delegate - 58th District
General Assembly Building, P.O. Box 406
Richmond, VA 23218

Dear Delegate Bell,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

The Honorable Creigh R. Deeds
Senate of Virginia
25th District
P.O. Box 396
Richmond, VA 23218

Dear Senator Deeds,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

The Honorable Mark R. Warner
U.S. Senate
475 Russell Senate Office Building
Washington, DC 20510

Dear Senator Warner,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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Best regards,

K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

HNTB Corporation
The HNTB Companies
Infrastructure Solutions

2900 South Quincy Street
Suite 200
Arlington, VA 22206

Telephone (703) 824-5100
Facsimile (703) 671-6210
www.hntb.com

October 21, 2014

The Honorable Tim Kaine
U.S. Senate
388 Russell Senate Office Building
Washington, DC 20510

Dear Senator Kaine,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

Identification of potential issues through agency coordination is an important step in initiating the EA process. On behalf of U.S. Army Garrison Fort Belvoir, HNTB invites your comments and attendance at a forthcoming Agency Scoping Meeting. To facilitate meaningful participation in the scoping process, we are providing a Scoping Informational Document and conducting a scoping meeting for interested federal, state and local agencies and organizations. Fort Belvoir is requesting that interested federal, state and local agencies and organizations review the attached scoping document and provide comments. The scoping document provides background information; presents the preliminary purpose and need and alternatives; identifies the environmental impact categories most likely impacted; and provides a preliminary schedule.

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Best Western Plus Charlottesville Airport Inn & Suites
Rivanna Room
5920 Seminole Trail
Ruckersville, VA 22968
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October 21, 2014

The Honorable Robert Hurt
U.S. House of Representatives
5th District of Virginia
125 Cannon HOB
Washington, DC 20515

Dear Congressman Hurt,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. John Barkley
County Administrator
Greene County
Board of Supervisors
PO Box 358
Standardsville, VA 22973

Dear Mr. Barkley,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. Bart Svoboda
Zoning Official
Greene County
Planning and Zoning Department
PO Box 358
Standardsville, VA 22973

Dear Mr. Svoboda,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. Greg Harper
Water Resources Manager
Albemarle County
General Services Department - Water Resources
County Office Building, 401 McIntire Road, Room 224
Charlottesville, VA 22902

Dear Mr. Harper,

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October 21, 2014

Mr. Mark Graham
Director
Albemarle County
Department of Community Development
County Office Building, 401 McIntire Road, North Wing
Charlottesville, VA 22902

Dear Mr. Graham,

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October 21, 2014

Mr. Calvin Morris
Commission Member
Albemarle County
Planning Commission - Rivanna District
505 Explorers Road
Charlottesville, VA 22911

Dear Mr. Morris,

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October 21, 2014

Mr. Kenneth C. Boyd
Board Member
Albemarle County
Board of Supervisors - Rivanna District
675 Berkmar Circle
Charlottesville, VA 22901

Dear Mr. Boyd,

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October 21, 2014

Mr. Thomas Foley
County Executive
Albemarle County
Office of the County Executive
County Office Building, 401 McIntire Road
Charlottesville, VA 22902

Dear Mr. Foley,

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October 21, 2014

Mr. Michael Gaffney
Chair
Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlottesville, VA 22902

Dear Mr. Gaffney,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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(434) 985-1855

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Best regards,

K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

HNTB Corporation
The HNTB Companies
Infrastructure Solutions

2900 South Quincy Street
Suite 200
Arlington, VA 22206

Telephone (703) 824-5100
Facsimile (703) 671-6210
www.hntb.com

October 21, 2014

Ms. Melissa Collier
Administrative Coordinator
Rivanna River Basin Commission
490 Westfield Road
Charlottesville, VA 22901

Dear Ms. Collier,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

Identification of potential issues through agency coordination is an important step in initiating the EA process. On behalf of U.S. Army Garrison Fort Belvoir, HNTB invites your comments and attendance at a forthcoming Agency Scoping Meeting. To facilitate meaningful participation in the scoping process, we are providing a Scoping Informational Document and conducting a scoping meeting for interested federal, state and local agencies and organizations. Fort Belvoir is requesting that interested federal, state and local agencies and organizations review the attached scoping document and provide comments. The scoping document provides background information; presents the preliminary purpose and need and alternatives; identifies the environmental impact categories most likely impacted; and provides a preliminary schedule.

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October 21, 2014

Mr. Charles P. Boyles
Executive Director
Thomas Jefferson Planning District Commission
401 East Water Street, P.O. Box 1505
Charlottesville, VA 22902

Dear Mr. Boyles,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Ms. Rene Hypes
Environmental Review Coordinator
Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street
Richmond, VA 23219-2010

Dear Ms. Hypes,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. David Whitehurst
Bureau Director
Virginia Department of Game and Inland Fisheries
Bureau of Wildlife Resources
4010 W Broad St
Richmond, VA 23230

Dear Mr. Whitehurst,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. Larry Nichols
Program Manager
Virginia Department of Agriculture and Consumer Services
Office of Plant Industry Services
102 Governor Street, Room LL55
Richmond, VA 23219

Dear Mr. Nichols,

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October 21, 2014

Mr. Marc Holma
Architectural Historian
Virginia Department of Historic Resources
Division of Review and Compliance
2801 Kensington Avenue
Richmond, VA 23221

Dear Mr. Holma,

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October 21, 2014

Mr. Michael Barber
Director
Virginia Department of Historic Resources
Division of State Archaeology
2801 Kensington Avenue
Richmond, VA 23221

Dear Mr. Barber,

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October 21, 2014

Mr. John D. Lynch, P.E.
District Administrator
Virginia Department of Transportation
Culpeper District
1601 Orange Road
Culpeper, VA 22701

Dear Mr. Lynch, P.E.,

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October 21, 2014

Mr. Rick Cooper
Director
Virginia Department of Mines, Minerals, and Energy
Division of Mineral Mining
900 Natural Resources Drive, Suite 400
Charlottesville, VA 22903

Dear Mr. Cooper,

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October 21, 2014

Mr. Mark Eversole
Virginia Marine Resource Commission
Habitat Management Division
2600 Washington Ave, Third Floor
Newport News, VA 23607

Dear Mr. Eversole,

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Rivanna Room
5920 Seminole Trail
Ruckersville, VA 22968
(434) 985-1855

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Fort Belvoir welcomes comments regarding development of the EA. In order to identify issues early in the EA process, it is requested that all comments be provided by December 19, 2014. Comments may be submitted at the scoping meeting, mailed to the address listed below or provided via e-mail to rbassarab@hntb.com. If you determine that the Proposed Action would not impact your area of jurisdiction or expertise, written verification would be appreciated.

Best regards,

K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

HNTB Corporation
The HNTB Companies
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2900 South Quincy Street
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Arlington, VA 22206

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October 21, 2014

Ms. Amy Thatcher Owens
Regional Director
Virginia Department of Environmental Quality
Valley Regional Office
P.O Box 3000
Harrisonburg, VA 22801

Dear Ms. Owens,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. Ed Zimmer
Regional Forester
Virginia Department of Forestry
Central Region Office
900 Natural Resources Drive, Suite 800
Charlottesville, VA 22903

Dear Mr. Zimmer,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Mr. Troy Collins
Deputy District Engineer for Project Management and Chief, Project
U.S. Army Corps of Engineers
Norfolk District
Waterfield Building, 803 Front Street
Norfolk, VA 23510

Dear Mr. Collins,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 21, 2014

Ms. Bonnie Lomax
Communications Coordinator
U.S. Environmental Protection Agency
EPA Region 3 - Environmental Assessment and Innovation Division
1650 Arch Street
Philadelphia, PA 19103

Dear Ms. Lomax,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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October 24, 2014

Mr. Andrée DuVarney
National Environmental Coordinator
Natural Resources Conservation Service
Ecological Services Division
1621 N. Kent Street
Arlington, VA 22209

Dear Mr. DuVarney,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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November 4, 2014

Mr. David Benish
Chief of Planning
Albemarle County
County Office Building, 401 McIntire Road
Charlottesville, VA 22902

Dear Mr. Benish,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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November 4, 2014

Mr. Wayne Cilimberg
Director of Planning
Albemarle County
County Office Building, 401 McIntire Road
Charlottesville, VA 22902

Dear Mr. Cilimberg,

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November 4, 2014

Ms. Jane Dittmar
Chair of the Board of Supervisors
Albemarle County
401 McIntire Road
Charlottesville, VA 22902

Dear Ms. Dittmar,

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November 4, 2014

Ms. Ann Mallek
Board of Supervisors - White Hall Supervisor
Albemarle County
P.O. Box 207
Earlysville, VA 22936

Dear Ms. Mallek,

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November 4, 2014

Mr. Gary B. O'Connell
Albermarle County Service Authority
168 Spotnap Road
Charlottesville, VA 22911

Dear Mr. O'Connell,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

Identification of potential issues through agency coordination is an important step in initiating the EA process. On behalf of U.S. Army Garrison Fort Belvoir, HNTB invites your comments and attendance at a forthcoming Agency Scoping Meeting. To facilitate meaningful participation in the scoping process, we are providing a Scoping Informational Document and conducting a scoping meeting for interested federal, state and local agencies and organizations. Fort Belvoir is requesting that interested federal, state and local agencies and organizations review the attached scoping document and provide comments. The scoping document provides background information; presents the preliminary purpose and need and alternatives; identifies the environmental impact categories most likely impacted; and provides a preliminary schedule.

Fort Belvoir will conduct an Agency Scoping Meeting on November 20, 2014 from 2:00 p.m. to 4:00 p.m. The Agency Scoping Meeting will be held at the following address:

Best Western Plus Charlottesville Airport Inn & Suites
Rivanna Room
5920 Seminole Trail
Ruckersville, VA 22968
(434) 985-1855

Project team members will give a brief presentation on project information including a discussion of the proposed alternatives being investigated as part of the master planning process. Attendance is encouraged

as this is an opportunity for attendees to learn more about the projects and communicate their issues and concerns regarding potential environmental impacts. Please feel free to forward this invitation to others within your organization who may wish to participate. In order to ensure that adequate meeting facilities are provided, please provide notice if you intend to attend the meeting in person before November 13th, 2014 via email to rbassarab@hntb.com.

Fort Belvoir welcomes comments regarding development of the EA. In order to identify issues early in the EA process, it is requested that all comments be provided by December 19, 2014. Comments may be submitted at the scoping meeting, mailed to the address listed below or provided via e-mail to rbassarab@hntb.com. If you determine that the Proposed Action would not impact your area of jurisdiction or expertise, written verification would be appreciated.

Best regards,

K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

HNTB Corporation
The HNTB Companies
Infrastructure Solutions

2900 South Quincy Street
Suite 200
Arlington, VA 22206

Telephone (703) 824-5100
Facsimile (703) 671-6210
www.hntb.com

November 4, 2014

Ms. Susan Stimart
Economic Development Facilitator
Albemarle County
County Office Building, 401 McIntire Road
Charlottesville, VA 22902

Dear Ms. Stimart,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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Best regards,

K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

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Facsimile (703) 671-6210
www.hntb.com

November 4, 2014

Mr. Butch Williamson
Director of Key Accounts/Energy Services
Rappahannock Electric Cooperative

Dear Mr. Williamson,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

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K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

Royce Bassarab

From: Royce Bassarab
Sent: Thursday, October 23, 2014 11:17 AM
To: 'troy_andersen@fws.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_DOI_VA.pdf

Good morning,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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Please do not hesitate to contact me with any questions or comments in the meantime.

Thank you in advance for your assistance on this important project.

Royce Bassarab
HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 4:49 PM
To: 'aedmonds@logapp.com'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Gov_Commission.pdf

Good afternoon,

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HNTB Corporation

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Project Manager

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Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 4:41 PM
To: 'exec@cvillechamber.com'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Commerce.pdf

Good afternoon,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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Thank you in advance for your assistance on this important project.

Royce Bassarab
HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 4:03 PM
To: 'camille_turner@warner.senate.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Senator_Warner.pdf

Good afternoon,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

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2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 4:25 PM
To: 'district25@senate.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_District25.pdf

Good afternoon,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

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2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 4:27 PM
To: 'delrbell@house.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Delegate_Bell.pdf

Good afternoon,

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HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

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2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 3:18 PM
To: 'gharper@albemarle.org'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Albermarle_WR.pdf

Good afternoon,

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K. Royce Bassarab, AICP
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Direct Phone: 703.253.5803
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100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 3:41 PM
To: 'planning@gcva.us'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Greene_PZ.pdf; Rivanna_Station_Scoping_Letter_Greene_BS.pdf

Good afternoon,

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HNTB Corporation

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Project Manager

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 3:54 PM
To: 'maegan.crews@mail.house.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Congress_Hurt.pdf

Good afternoon,

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HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

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Arlington, Virginia 22206
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www.hntb.com

100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 3:58 PM
To: 'roanoke_intern@kaine.senate.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Senator_Kaine.pdf

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Project Manager

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100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:05 PM
To: 'john.lynch@VDOT.Virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDOT_Culpepper.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:11 PM
To: 'Rene.hypes@dcr.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_DCR.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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Direct Phone: 703.253.5803
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100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:29 PM
To: 'lomax.bonnie@epa.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_EPA.pdf

Good afternoon,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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Best Western Plus Charlottesville Airport Inn & Suites
Rivanna Room
5920 Seminole Trail
Ruckersville, VA 22968
(434) 985-1855

Please feel free to forward this information to others within your organization who may wish to participate. In order to ensure that adequate meeting facilities are provided, please provide notice if you intend to attend the meeting in person before November 1st, 2014 via email to rbassarab@hntb.com.

Please do not hesitate to contact me with any questions or comments in the meantime.

Thank you in advance for your assistance on this important project.

Royce Bassarab
HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:31 PM
To: 'info@tjpdc.org'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_TJPDC.pdf

Good afternoon,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:34 PM
To: 'mmoss8@centurylink.net'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_RRBC.pdf

Good afternoon,

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:43 PM
To: 'info@rivanna.org'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_RWSA.pdf

Good afternoon,

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:44 PM
To: 'tfoley@albemarle.org'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Albermarle_CE.pdf

Good afternoon,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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Direct Phone: 703.253.5803
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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:46 PM
To: 'kboyd@albermarle.org'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Albermarle_BS.pdf

Good afternoon,

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:47 PM
To: 'cal_mor@msn.com'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Albermarle_PC.pdf

Good afternoon,

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:51 PM
To: 'FMacCall@albemarle.org'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Information_Package_20141021.pdf; Rivanna_Station_Scoping_Letter_Albermarle_CD.pdf

Good afternoon,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:03 PM
To: 'david.whitehurst@dgif.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDGIF.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

Good afternoon,

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Project Manager

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www.hntb.com

100 YEARS OF INFRASTRUCTURE SOLUTIONS

Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:03 PM
To: 'larry.nichols@vdacs.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDACS.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:03 PM
To: 'marc.holma@dhr.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDHR_RC.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

Good afternoon,

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:03 PM
To: 'mike.barber@dhr.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDHR_Arch.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:04 PM
To: 'karen_mayne@fws.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_DOI_VA.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:04 PM
To: 'ed.zimmer@dof.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDF.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:04 PM
To: 'amy.owens@deq.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDEQ_Valley.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:04 PM
To: 'mark.eversole@mrc.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VMRC.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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Royce Bassarab

From: Royce Bassarab
Sent: Wednesday, October 22, 2014 2:05 PM
To: 'rick.cooper@dmme.virginia.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Attachments: Rivanna_Station_Scoping_Letter_VDMME.pdf; Rivanna_Station_Scoping_Information_Package_20141021.pdf

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Ruckersville, VA 22968
(434) 985-1855

Please feel free to forward this information to others within your organization who may wish to participate. In order to ensure that adequate meeting facilities are provided, please provide notice if you intend to attend the meeting in person before November 1st, 2014 via email to rbassarab@hntb.com.

Please do not hesitate to contact me with any questions or comments in the meantime.

Thank you in advance for your assistance on this important project.

Royce Bassarab
HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

100 YEARS OF INFRASTRUCTURE SOLUTIONS

Attachment 2:

Agency Scoping Informational Document

Rivanna Station
Environmental Assessment
Scoping Informational Document

Overview

Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an Environmental Assessment (EA) as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of the Rivanna Station Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

This document provides preliminary information regarding the EA to facilitate agency and interested organization review and comment. The document includes the following sections:

- Background
- Proposed Action
- Preliminary Purpose and Need
- Preliminary Alternatives
- Environmental Analysis
- Preliminary Schedule

Fort Belvoir is requesting that interested federal, state and local agencies and organizations review the attached scoping document and provide comments. In order to identify issues early in the EA process, it is requested that all comments be provided by December 19, 2014. Comments may be submitted at the November 20, 2014 scoping meeting, mailed to the address listed below or provided via e-mail to rbassarab@hntb.com.

Please submit written comments to:

K. Royce Bassarab, AICP
Environmental Planner
HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, VA 22206

Rivanna Station
Environmental Assessment
Scoping Informational Document

Background

Rivanna Station was acquired by the Federal Government in the late 1990s and currently consists of approximately 76 acres of land. The Station is located in Albemarle County, Virginia, approximately 12 miles north of the city of Charlottesville, Virginia and approximately 95 miles driving distance from the Fort Belvoir Main Post area.

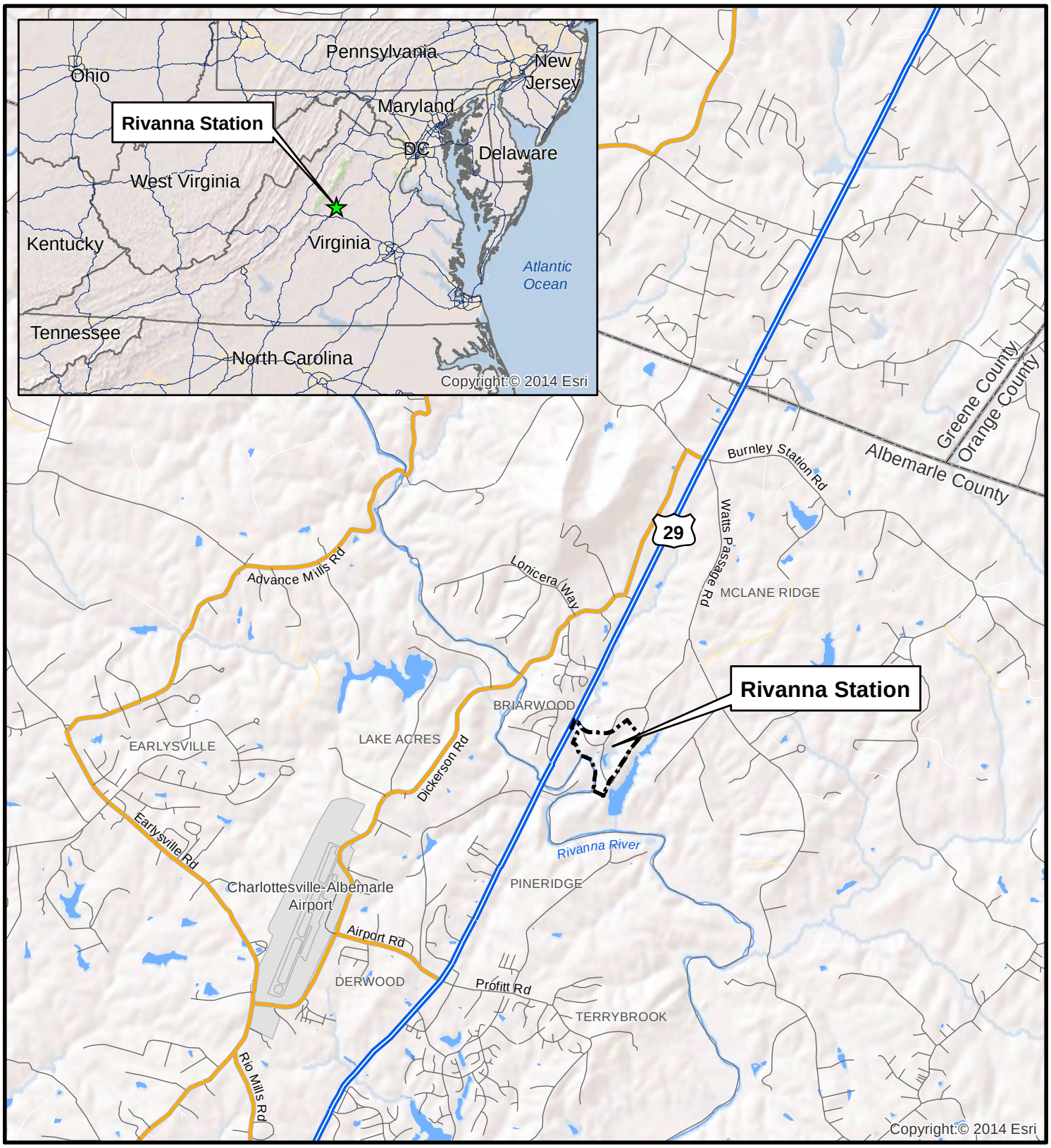
Rivanna Station is home to three primary mission partners reporting directly to the DoD: the National Ground Intelligence Center (NGIC), Defense Intelligence Agency (DIA), and the National Geospatial-Intelligence Agency (NGA).

INSCOM, headquartered on Fort Belvoir, conducts intelligence, security and information operations for military commanders and national decision makers. NGIC, one of INSCOM's major subordinate commands, is the Defense Department's primary producer of ground forces intelligence. DIA is a DoD combat support agency that produces, analyzes, and disseminates military intelligence information to combat and non-combat military missions. NGA provides timely, relevant, and accurate geospatial intelligence in support of national security.

NGIC operations at Rivanna Station are housed in the Nicholson Building, a 258,000 square foot facility constructed in 2000. DIA operations associated with the Joint Use Intelligence Analysis Facility (JUIAF) at Rivanna Station are housed in the Rowe Building, a 170,500 square foot facility constructed in 2010. The NGA personnel on Rivanna Station are co-located in the Rowe and Nicholson buildings. The Station also includes a Child Development Center (CDC), Access Control Point (ACP) and Visitor Control Center buildings, and a Remote Distribution Facility (RDF). Current mission functions which are located off-site include personnel in leased office space located immediately to the northeast of the existing campus (ULC #1); parking located on leased property immediately to the north of the existing campus; and warehousing and deliveries screening functions located in leased space in a remote location in downtown Charlottesville.

The U.S. Army, through USACE, is performing an EA as required under NEPA to evaluate the development and preparation of the installation's RPMP, per Army regulations. Army procedures to comply with NEPA are set forth in 32 CFR Part 651, *Environmental Analysis of Army Actions*. Under the guidance provided in NEPA and in 32 CFR Part 651, all federal actions must be environmentally reviewed. An EA is intended to facilitate agency planning and informed decision-making, helping proponents and other decision makers understand the potential extent of environmental impacts of a proposed action and its alternatives, and whether those impacts (or cumulative impacts) are significant.

The contents of an EA include the need for the proposed action, alternatives to the proposed action, environmental impacts of the proposed action and alternatives; and documentation of agency coordination. The EA results in either a Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS). If Fort Belvoir determines that this proposed action may have a significant impact on the quality of the human environment, then an EIS will be prepared.



Legend

- Rivanna Station
- Highway
- Major Road
- Local Road
- County Boundary

Location Map

0 1,250 2,500 5,000 Feet

N

Source: Rivanna Station GIS, ESRI
Prepared on 09/30/14

Legend

- Station Boundary
- Leased Facilities
- Station Fenceline

Existing Conditions

0 125 250 500 Feet

N

Appendix A

Attachment 2

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Proposed Action

The development of an Installation RPMP manages the real property assets and includes the identification of potential future actions. The RPMP identified the following potential projects that, if constructed, would more adequately accommodate the existing mission and anticipated organizational and mission changes and realignment.

- Expansion of secure facilities
- Development of a Joint-Use training facility
- Construction of an on-installation warehouse facility
- Construction of an Emergency Services Center
- Construction of secondary and emergency access
- Relocation of parking facilities
- Construction of fitness trails
- Improvements to the water distribution system

Preliminary Purpose and Need

Rivanna Station provides a secure and safe operating environment for key intelligence community mission partners and activities. The Rivanna Station campus currently consists of 75.55 acres of land area that has limited ability to accommodate existing mission functions currently located in leased facilities and leased land located outside the present campus boundaries. The installation has experienced significant growth since its acquisition in the late 1990's and the construction of the first mission partner facility in 2000 (Nicholson Building). The construction of the Rowe Building in 2010 nearly doubled the work force population by adding approximately 850 civilian personnel on the campus and 220 contractors in adjacent leased office space.

In addition to core mission functions, Rivanna Station has also begun to develop complimentary land uses and support activities necessary to provide a more self-sustaining campus for core mission functions and personnel. The current levels of authorized and funded civilian/military permanent force structure include approximately 1,200 staff associated with NGIC, approximately 1,000 staff associated with the DIA, and approximately 400 contractor positions. NGA staff is embedded in the Nicholson and Rowe buildings as required. Current mission functions which are located off-site include personnel in leased office space located immediately to the northeast of the existing campus; parking located on leased property immediately to the north of the existing campus; and warehousing and deliveries screening functions located in leased space in a remote location in downtown Charlottesville.

The ***purpose*** of the proposed action is to accommodate the current and forecast personnel and mission requirements of Rivanna Station within a secure environment.

The ***need*** for the proposed action is to consolidate all personnel within the secure perimeter of Rivanna Station to reduce reliance on leased space, improve security, enhance the force protection condition (a force protection level related to terrorist threats), and provide better mission continuity and connectivity.

Alternatives

A key to the NEPA process is the consideration of reasonable alternatives which would minimize adverse impacts. Potential alternatives will be considered based on their ability to meet the Purpose and Need for the Proposed Action. Four alternatives, one on-site redevelopment (Alternative A) and three expansion alternatives (B, C, and D), will be considered, in addition to the No Action Alternative. Figures presenting each of the alternatives can be viewed following the descriptions.

No Action Alternative

Consideration of the No Action Alternative is required by NEPA per the Council on Environmental Quality (CEQ) Regulations. The No Action Alternative represents Rivanna Station without an RPMP including future projects.

Alternative A: On-Site Redevelopment

Alternative A focuses all development within the existing property boundary at Rivanna Station. In general, opportunities to accommodate major new development are limited to small in-fill sites or redevelopment of surface parking lots, which represent the only remaining large "developable" land resources located within the current boundaries of Rivanna Station.

Under this alternative, both the lease for parking located north of Boulders Road and the office space and parking at ULC #1 would be terminated. In order to accommodate the parking within existing Rivanna Station property, two new elevated parking structures would be constructed, and a secure addition to either the Nicholson or the Rowe building and a warehouse would be constructed.

Alternative B: Southeast Station Expansion

Alternative B would expand the existing Station boundary to the southeast to accommodate existing and future growth. An undeveloped site lies to the southeast of Rivanna Station between the Rowe Building and Greens Pond. The site is currently undeveloped and is characterized by open fields and wooded areas that slope from a highpoint at the current campus boundary southeastward towards Greens Pond. This potential land acquisition would extend existing force protection measures and improve the security posture on Rivanna Station.

Under this alternative both the lease for parking located north of Boulders Road and the office space and parking at ULC #1 would be terminated. Additional parking and a warehouse facility would be constructed on the expanded property to the southeast. A secure addition to either the Nicholson or the Rowe building and a warehouse would also be constructed.

Alternative C: Northeast Station Expansion

Alternative C would expand the existing Station boundary to the northeast in areas currently partially leased by the USACE to accommodate Rivanna Station staff and contractors (ULC #1). With expansion of this existing developed area, the expansion of the Rowe or Nicholson Building would not occur, nor would any additional parking facilities be constructed. This expansion would not, however, alleviate the need to continue to lease the gravel parking lot located to the north of Boulders Road. Other projects as part of the Proposed Action would be constructed throughout the existing Station area.

Alternative D: North Station Expansion

This alternative would expand the existing Station boundary to encompass a vacant lot currently used for leased parking north of Boulders Road. Under this alternative, the station boundary would be split across Boulders Road, which in order to meet the purpose and need would require the construction of a secure bridge overpass over Boulders Road to allow for access through the ACP or construction of an additional ACP within the expanded boundary.

The alternative includes the development of a warehouse facility and additional parking in the expanded area. Implementation of this alternative would require an additional ACP and construction of a secure perimeter, which could not cross Boulders Road. Alternatively, construction of a secure perimeter could be combined with a pedestrian bridge that crosses Boulders Road. Other projects as part of the Proposed Action, including the expansion of the Rowe or Nicholson Building, would be constructed throughout the existing Station area.

Legend

- Existing Station Boundary
- Existing Station Fenceline
- Leased Facilities

No Action Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Legend

- Station Boundary
- Station Fenceline
- Recreation Trail
- Ingress / Egress

Alternative A
On-Site Redevelopment Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Legend

- Existing Station Boundary
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Alternative B
Southeast Station Expansion Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Legend

- Existing Station Boundary
- Leased Facilities
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Alternative C
Northeast Station Expansion Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Legend

- Existing Station Boundary
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Alternative D
North Station Expansion Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Environmental Analysis

The CEQ regulations implementing NEPA (40 CFR Part 1500) require documentation succinctly describing the environment of the area(s) to be affected by the alternatives under consideration, as well as a discussion of the impacts in proportion to their significance. The affected environment under the Proposed Action Alternative(s) ranges from site-specific physical and natural resources to broader regional concerns (i.e., air quality variables, noise, infrastructure, socioeconomic conditions, community facilities and services, transportation and traffic).

The EA will assess the environmental impacts of the Proposed Action and the reasonable alternatives that are carried forward for detailed evaluation. While all of the environmental resource categories will be addressed in the EA, the major emphasis is expected to be on those resources listed below.

- Cultural Resources
- Water Resources Management
- Land Use
- Traffic and Transportation Systems
- Vegetation and Wildlife Habitats

For the remainder of the environmental resource categories, little or no analysis is expected to be necessary. The EA will provide succinct documentation as to why these resources would not be affected or only minimally impacted.

Preliminary Schedule

The preliminary schedule for the EA is provided below. Note that there will be another opportunity to participate in the development of the EA beyond this scoping effort. It is anticipated that the Draft EA will be available for agency and public review and comment in the spring of 2015. Comments on the Draft EA will be addressed as part of the preparation of the Final EA.

EA Steps	2014			2015				
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Conduct Scoping								
Prepare Draft EA								
Publish Draft EA for Review								
Comment Period								
Prepare Final EA								
Issue Finding								

Attachment 3:

Agency Scoping Meeting Presentation

(November 20, 2014)

AGENCY SCOPING MEETING

RIVANNA STATION REAL PROPERTY MASTER PLAN & ENVIRONMENTAL ASSESSMENT

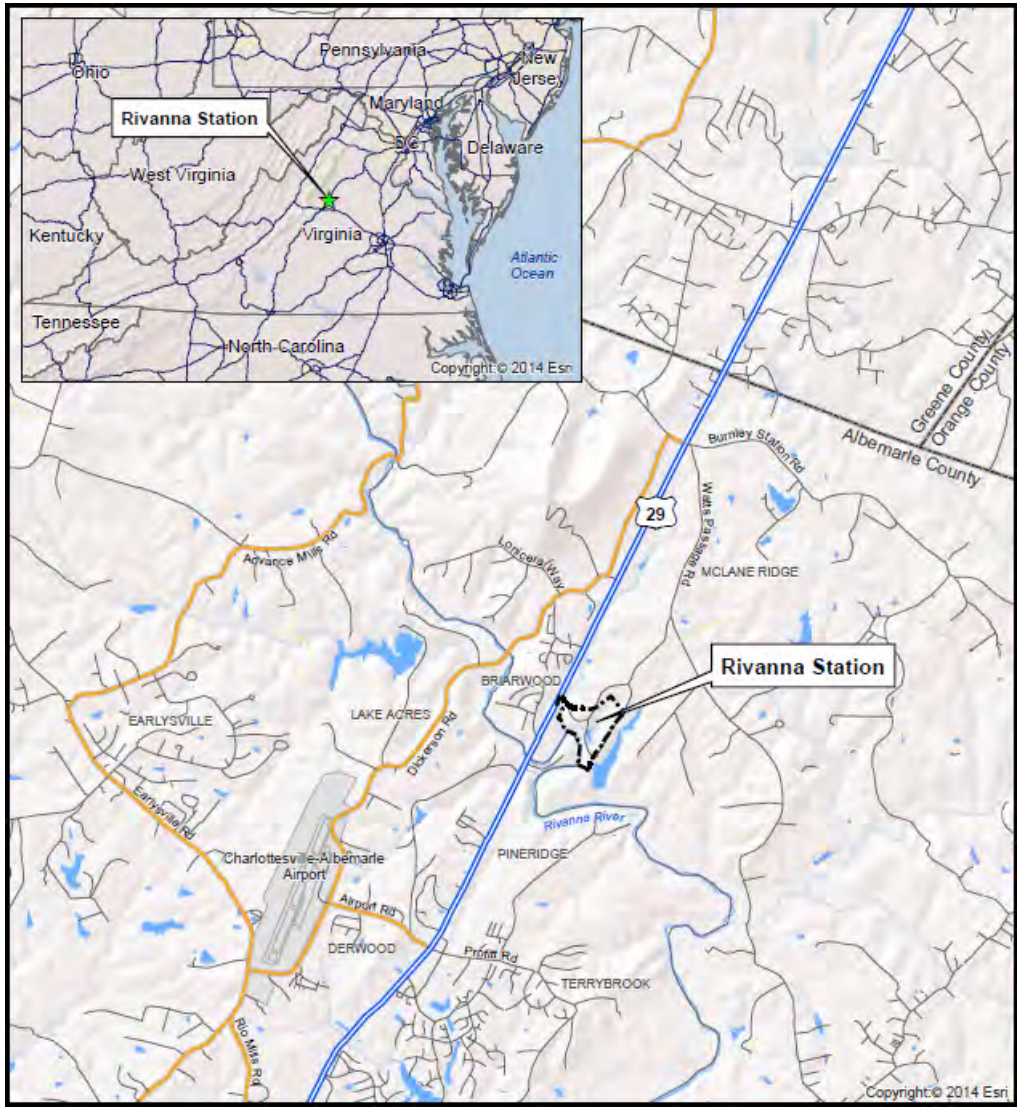
NOVEMBER 20, 2014

BEST WESTERN CHARLOTTESVILLE

PRESENTATION OVERVIEW

- Introductions
- Project Background
- Preliminary Purpose and Need
- Proposed Action
- Preliminary Alternatives
- Environmental Analysis
- Preliminary Schedule
- Comments and Discussion

PROJECT BACKGROUND - RIVANNA STATION



- Under the command of the U.S. Army Garrison Fort Belvoir, Virginia
- Three primary mission partners:
  - National Ground Intelligence Center (NGIC)
  - Defense Intelligence Agency (DIA)
  - National Geospatial-Intelligence Agency (NGA)
- Acquired in the late 1990's

EXISTING CONDITIONS - RIVANNA STATION

- Approximately 76 acres
- Nicholson Building (approx. 1,200 personnel)
- Rowe Building (approx. 1,000 personnel)
- Remote Distribution Facility (RDF)
- Child Development Center (CDC)
- Off-site Leased office space ((approx. 400 personnel) and parking

REAL PROPERTY MASTER PLAN (RPMP)

The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

Guiding Principals of the RPMP:

- Support Mission Requirements
- Address Key Deficiencies
- Provide Flexibility for Future Mission Requirements
- Environmental Sensitivity

Requires concurrent NEPA analysis.

UNCLASSIFIED - For Official Use Only

Real Property Master Plan

Long and Short Range Component

Capital Investment Strategy

Rivanna Station, Virginia

September 2014

Prepared for:

U.S. Army Corps of Engineers Norfolk District

Prepared by:

HNTB Engineers, Architects, Planners

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

An Environmental Assessment:

- Is intended to facilitate agency planning and informed decision-making,
- To help proponents and other decision makers understand the potential extent of environmental impacts of a proposed action and its alternatives,
- Determine whether those impacts (or cumulative impacts) are significant.

The EA is being prepared in accordance with 32 Code of Federal Relations (CFR) Part 651 [Army Regulation 200–2], Environmental Analysis of Army Actions and the NEPA Guidance Manual.

PRELIMINARY PURPOSE AND NEED

The *purpose* of the proposed action is to accommodate the current and forecast personnel and mission requirements of Rivanna Station within a secure environment.

The *need* for the proposed action is to consolidate all personnel within the secure perimeter of Rivanna Station to:

- Reduce reliance on leased space,
- Improve security,
- Enhance the force protection condition (a force protection level related to terrorist threats), and
- Provide better mission continuity and connectivity.

PROPOSED ACTION

Proposed Action Projects

- Expansion of secure facilities
- Development of a Joint-Use training facility
- Construction of an on-installation warehouse facility
- Construction of an Emergency Services Center
- Construction of secondary and emergency access
- Relocation of parking facilities
- Construction of fitness trails
- Improvements to the water distribution system

PRELIMINARY ALTERNATIVES

Alternatives analysis is key to the NEPA process.

Potential alternatives will be considered based on ability to meet Purpose and Need.

Alternatives	
No Action Alternative	No Action Alternative
On-Site Redevelopment Alternative	Alternative A
Southeast Station Expansion	Alternative B
Northeast Station Expansion	Alternative C
North Station Expansion	Alternative D

NO ACTION ALTERNATIVE

Key Elements:

- Represents Rivanna Station without the projects identified in the RPMP
- Does not meet the preliminary Purpose and Need
- Required by NEPA for consideration
- Serves as a baseline for comparison of potential environmental impacts

ALTERNATIVE A – ON-SITE REDEVELOPMENT

Key Elements:

- Focuses all development within the existing property boundary
- Expansion of Nicholson or Rowe Building
- Terminate leased space for parking and offices
- Construction of two elevated parking structures
- Improves security posture

ALTERNATIVE B – SOUTHEAST EXPANSION

Key Elements:

- Expand the Station boundary to the southeast
- Construct additional parking and warehouse facility
- Expansion of Nicholson or Rowe Building
- Terminate leased space for parking and offices
- Improves security posture

ALTERNATIVE C – NORTHEAST EXPANSION

Key Elements:

- Expand the Station boundary to the northeast
- Construct additional parking and warehouse facility
- Continue leasing space for parking
- Improves security posture

ALTERNATIVE D – NORTH EXPANSION

Key Elements:

- Expand the Station boundary to the north
- Construct additional parking and warehouse facility
- Expansion of Nicholson or Rowe Building
- Terminate leased space for parking and offices
- Improves security posture

ENVIRONMENTAL ANALYSIS

Environmental impacts of the Proposed Action and reasonable alternatives will be evaluated.

Impacts to valued environmental resources will be analyzed according to the U.S. Army Environmental Center's (USAEC) NEPA Analysis Guidance Manual.

All environmental components (resources) will be addressed.

Based on preliminary review of the affected environment, primary emphasis will be on the following:

- Cultural Resources
- Water Resources Management
- Land Use

PRELIMINARY SCHEDULE

EA Steps	2014			2015				
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Conduct Scoping								
Prepare Draft EA								
Publish Draft EA for Review								
Comment Period								
Prepare Final EA								
Issue Finding								

COMMENTS AND DISCUSSION

We encourage each agency to review the information and materials and provide comments by <u>December 19, 2014</u>.

Submit written comments to:

K. Royce Bassarab, AICP
Environmental Planner
HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, VA 22206
rbassarab@hntb.com

Attachment 4:

Agency Scoping Meeting Sign-In Sheet

(November 20, 2014)

Sign-In Sheet – Rivanna Station RPMP and EA Agency Scoping Meeting

November 20th, 2014, 2:00 p.m.

Name	Organization	Phone	Email
Andrea Terry	Rivanna Water + Sewer Authority	434-977 2970 x 197	aterry@rivanna.org
Ann Mallek	Albemarle Co Board of Supervisors	434 9966159	also for Rivanna Riverbasin Com amallek@albemarle.org
Wood Hudson	Thomas Jefferson PDC	434-937-7015	whudson@tjpdc.org
Jeff Shiffler	DIA	434-995-3412	JEFFREY.SHIFFLER @ DODIIS.MIL
Michael Knight	DIA	434-995-3411	michael.knight2@dodiis.mil
Vince Covielle	NGIC	434-980-7487	VINCENT.COVIELLO.CIV@MAIL.MIL
Dinah Page	NGIC	434 951-1715	dinah1.page.civ@mail.mil
Wayne Cilimberg	Albemarle Co.	434-296-5832 (ext 3254)	wcilimb@albemarle.org
Lee Catlin	Albemarle Co.	434-296-5841	lcatlin@albemarle.org
Carl Morris	Albemarle Co	434 293-2458	Carl_Mor@msn.com
Mike Coleman	Commonwealth of VA		MIKE.COLEMAN@ GOVERNOR.VIRGINIA.GOV

Sign-In Sheet – Rivanna Station RPMP and EA Agency Scoping Meeting

November 20th, 2014, 2:00 p.m.

Name	Organization	Phone	Email
BRIDW PIEPLOW	HNTB	703-824-5100	BPIEPLOW@HNTB.com
Troy Austin	VDOT	434-422-9782	nathran.austin@vdot.virginia.gov
CHRIS LANDGRAF	FB - DPW	703 806-4194	christopher.w.landgraf.civ@mail.mil
Gary Tysor	USACE Norfolk	757-201-7224	Gary.W.Tysor@USACE.Army.Mil
Ashley Pilakowski	DPW-ENRD	703 806 0054	ashley.a.pilakowski.ctr@mail.mil
Marc Russell	DPW-ENRD	703 806 0022	marc.t.russell2.civ@mail.mil
DAN PAINTER	VDOT	540-829-7687	daniel.painter@vdot.virginia.gov
Marshall Barron	VDOT	540 829-7555	marshall.barron@vdot.virginia.gov
ROYCE BASSARAB	HNTB	703-253-5803	Rbassarab@HNTB.com
LTC MARK ZIMMERMAN	NGIC	434-980-7068	MARK.C.ZIMMERMAN4.MIL@MAIL.MIL

Sign-In Sheet – Rivanna Station RPMP and EA Agency Scoping Meeting

November 20th, 2014, 2:00 p.m.

Name	Organization	Phone	Email
Scott Leake	Congressman Robert Hurt	973-9631	scott.leake@mail.house.gov
Andrew Densmore	Senator Warner	540 742 4144	Andrew_Densmore@warner.senate.gov
Carmen Bingham	Delegate David Toscano	434.220.1660	carmen@davidtoscano.com
David Cook	DIA	434-995-3442	david.cook2@dodiis.mil
Wade Woolfrey	NGIC	434.995.4307	
Ronald Maxwell	Ft. Belvoir, DPW	703-806-0070	Ronald.J.Maxwell.civ@mail.mil

Attachment 5:

Agency Scoping Meeting Notes

(November 20, 2014)

DRAFT

Rivanna Station
Environmental Assessment
Agency Scoping Meeting Notes

Best Western Charlottesville, Nicholson Room
20 November, 2014
2:00 p.m. to 4:00 p.m.

Attachments:

- Sign in sheets
- Presentation
- Scoping Package
- Distribution List (invitations)

Overview

- Chris Landgraf (Fort Belvoir DPW) opened the meeting at 2:15 p.m., provided an introduction on behalf of Fort Belvoir and Rivanna Station, and provided a brief overview of the Real Property Master Plan.
- Marc Russell (Fort Belvoir DPW) provided an overview of the environmental review process.
- Members of the Project Team, Rivanna Station, Fort Belvoir, and meeting attendees introduced themselves (sign-in sheet attached).
- Royce Bassarab (HNTB) presented via PowerPoint (attached) an overview of the RPMP and EA process, outlined the preliminary alternatives, discussed the range of environmental analysis, and presented the target project schedule.
- The floor was opened for discussion. Primary discussion topics included the following:
    - A clarification was requested regarding the future of Boulders Road – that the responsibility for extending/continuing the road did not rest with the Army. Chris Landgraf confirmed that improvements to Boulders Road are not the responsibility of Rivanna Station.
    - VDOT commented on the potential for increases in traffic on Route 29. Chris Landgraf indicated that traffic analysis had been completed for the previous (2008) EA and none of the alternatives under consideration would add personnel to the Station beyond what was identified in the 2008 EA. This EA process will consider previous traffic analysis.
    - Regarding potential future employees, a reasonable assumption by 2020 is an approximate net gain of 250 people (authorized personnel), the numbers of total staff (authorized personnel and contract staff) fluctuates. Chris Landgraf clarified that the station cannot be expanded for unidentified future missions, only that which is reasonably foreseeable. The EA will clarify the numbers of authorized personnel as they relate to base requirements.
    - Regarding water and wastewater needs, discussion on the capacities of the wastewater facilities and reservoir capacities occurred. At the moment, adequate facilities are believed to exist to accommodate potential development associated with Rivanna Station.

- Rivanna Station is not easily accessible via public transportation. The EA will discuss the Rideshare program but the station is required to be developed with Army parking requirements (60% parking ratio).
- The RPMP considered the Albermarle County comprehensive plan (currently being updated and anticipated to be adopted in April 2015) and more specifically the Places 29 plan, which adequately addresses the potential future needs of Rivanna Station. As currently envisioned by the County, future extensions of Boulders Road and planned land uses are consistent with the needs of Rivanna Station and can serve to potentially reduce traffic by providing needed land uses (commercial, residential) in close proximity to the station.
- Albermarle County government supports Rivanna Station and wants to ensure a continued working relationship and land use policies that support station development.
- The Virginia Commission on Military Installations and Defense Activities represents military installations in the Commonwealth, and states that provided space is available and the community is willing, Rivanna Station would be an attractive location for future realignments through potential future rounds of BRAC, although none are anticipated or contemplated as part of this EA.
- The County is open to considering overlay zoning or other measures to ensure compatible growth. The likely means of ensuring consistent land use is a Joint Land Use Study (JLUS) but these are more appropriate when potential problems exist or are forecast to exist.
- Rivanna Station desires Boulders Road to be public and not under the station's control, due to road maintenance costs and that ownership of the road could impede the County's development plans.
- The potential for providing an additional meeting with the same stakeholders was discussed to review comments on the Draft EA when available.

Following the meeting, Chris Landgraf thanked the attendees for their valuable participation, and encouraged submission of comments.

Attachment 6:

Agency Scoping Comments

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

November 3, 2014

K. Royce Bassarab
Environmental Project Manager
HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, VA 22206

RE: Scoping: U.S. Army Garrison Fort Belvoir, Scoping for Draft Environmental Assessment for Rivanna Station Real Property Master Plan, Albemarle County

Dear Mr. Bassarab:

This correspondence is in response to the October 21, 2014, letter (received via email October 22, 2014) submitted by HNTB Corporation requesting comments or identification of concerns regarding the proposed Real Property Master Plan (RPMP) for Rivanna Station in Albemarle County. The letter announced an inter-agency and public scoping meeting and the intent of Fort Belvoir to prepare a Draft Environmental Assessment pursuant to the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of preparation of an installation RPMP. Fort Belvoir is requesting that interested federal, state, and local agencies and organizations review the Scoping Informational Document and provide comments ahead of the preparation of the draft Environmental Assessment.

Description of Project

According to the letter (attached), the U.S. Army Garrison Fort Belvoir intends to prepare a Real Property Master Plan for Rivanna Station located in Albemarle County, approximately twelve miles north of the City of Charlottesville. Rivanna Station was acquired by the federal government in the late 1990's and consists of 76 acres of land. Three primary mission partners reporting directly to the Department of Defense are located on the property at this time: the National Ground Intelligence Center (NGIC), the Defense Intelligence Agency (DIA), and the National Geospatial-Intelligence Agency (NGA). The installation RPMP will identify potential future actions on the property including: expansion of secure facilities, development of a Joint-Use training facility, construction of an on-installation warehouse facility, construction of an emergency

services center, construction of a secondary and emergency access to the installation, relocation of parking facilities, construction of fitness trails, and improvements to the water distribution system. These future projects would more adequately accommodate the existing mission of the installation and allow for future mission changes and realignment.

Coordination of Environmental Reviews

The role of DEQ in relation to the project under consideration is that DEQ Office of Environmental Impact Review (OEIR) will coordinate Virginia's review of federal documents prepared pursuant to NEPA and comment to the appropriate agency on behalf of the Commonwealth.

Scoping and Environmental Review

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of a NEPA document, if one is developed, for the proposed project. These entities may be asked to participate in the coordinated review of the NEPA document submitted to this office. Therefore, we are sharing your letter with selected state and local Virginia agencies:

- Department of Environmental Quality
  - Valley Regional Office
  - Air Division
  - Division of Land Protection and Revitalization
  - Division of Water, Office of Stormwater Management
- Department of Game and Inland Fisheries
- Department of Conservation and Recreation
  - Division of Natural Heritage
  - Division of Planning and Recreation Resources
- Department of Historic Resources
- Department of Health
- Department of Transportation
- Albemarle County
- Thomas Jefferson Planning District Commission

DATABASES

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

  Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:

  - www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Permit Expert

  Helps determine if a DEQ permit is necessary:

  - www.deq.virginia.gov/permitexpert/

- DHR Data Sharing System

  Survey records in the DHR inventory:

  - www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

  Produces lists of resources that occur in specific counties, watersheds or physiographic regions:

  - www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DGIF Fish and Wildlife Information Service

  Information about Virginia's Wildlife resources:

  - http://vafwis.org/fwis/

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

  Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:

  - www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

  Information on hazardous waste facilities:

  - www.epa.gov/enviro/facts/rcrainfo/search.html

- EPA Envirofacts Database

  EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:

- www.epa.gov/enviro/index.html

- EPA NEPAssist Database

  Facilitates the environmental review process and project planning:

  - http://nepassisttool.epa.gov/nepassist/entry.aspx

In order to ensure an effective coordinated review of documents, we typically require 18 copies. The submission may include 3 hard copies and 15 compact discs (CDs) or 3 hard copies and an electronic copy available for download at a website, file transfer protocol (ftp) site or the Virginia Information Technology Agency (VITA) Share file transfer system (*https://vitashare.virginia.gov/*). We recommend that project details unfamiliar to people outside the responsible federal agency be adequately described.

If you have questions about the environmental review process, please feel free to call me at (804) 698-4325 or Janine Howard of this Office at (804) 698-4299.

I hope this information is helpful to you.

Sincerely,

Ellie L. Irons, Program Manager
Environmental Impact Review

Enclosures

ec: K. Royce Bassarab, HNTB Corporation
Chris Landgraf, Fort Belvoir Directorate of Public Works
Gary Tysor, U.S. Army Corps of Engineers- Norfolk District
Thomas Foley, Albemarle County
Amy Ewing, DGIF
Robbie Rhur, DCR
Barry Matthews, VDH
Steve Coe, DEQ DLPR
Kotur Narasimhan, DEQ DAPC
Keith Fowler, DEQ VRO
Larry Gavan, DEQ Water
Holly Sepety/Shantelle Nicholson, DEQ Water
Roger Kirchen, DHR
Jim Cromwell/Chip Ray, VDOT
Wood T. Hudson, Thomas Jefferson PDC

HNTB Corporation
The HNTB Companies
Infrastructure Solutions

2900 South Quincy Street
Suite 200
Arlington, VA 22206

Telephone (703) 824-5100
Facsimile (703) 671-6210
www.hntb.com

October 21, 2014

HNTB

Ms. Amy Thatcher Owens
Regional Director
Virginia Department of Environmental Quality
Valley Regional Office
P.O Box 3000
Harrisonburg, VA 22801

Dear Ms. Owens,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in an Agency Scoping meeting for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an EA as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of an installation Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

Identification of potential issues through agency coordination is an important step in initiating the EA process. On behalf of U.S. Army Garrison Fort Belvoir, HNTB invites your comments and attendance at a forthcoming Agency Scoping Meeting. To facilitate meaningful participation in the scoping process, we are providing a Scoping Informational Document and conducting a scoping meeting for interested federal, state and local agencies and organizations. Fort Belvoir is requesting that interested federal, state and local agencies and organizations review the attached scoping document and provide comments. The scoping document provides background information; presents the preliminary purpose and need and alternatives; identifies the environmental impact categories most likely impacted; and provides a preliminary schedule.

Fort Belvoir will conduct an Agency Scoping Meeting on November 20, 2014 from 2:00 p.m. to 4:00 p.m. The Agency Scoping Meeting will be held at the following address:

Best Western Plus Charlottesville Airport Inn & Suites
Rivanna Room
5920 Seminole Trail
Ruckersville, VA 22968
(434) 985-1855

Project team members will give a brief presentation on project information including a discussion of the proposed alternatives being investigated as part of the master planning process. Attendance is encouraged

as this is an opportunity for attendees to learn more about the projects and communicate their issues and concerns regarding potential environmental impacts. Please feel free to forward this invitation to others within your organization who may wish to participate. In order to ensure that adequate meeting facilities are provided, please provide notice if you intend to attend the meeting in person before November 1st, 2014 via email to rbassarab@hntb.com.

Fort Belvoir welcomes comments regarding development of the EA. In order to identify issues early in the EA process, it is requested that all comments be provided by December 19, 2014. Comments may be submitted at the scoping meeting, mailed to the address listed below or provided via e-mail to rbassarab@hntb.com. If you determine that the Proposed Action would not impact your area of jurisdiction or expertise, written verification would be appreciated.

Best regards,

K. Royce Bassarab, AICP
Environmental Project Manager
HNTB Corporation

Cc:

Chris Landgraf, Acting Deputy, Fort Belvoir Directorate of Public Works
Gary Tysor, Project Manager USACE, Norfolk District

Rivanna Station
Environmental Assessment
Scoping Informational Document

Overview

Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. The U.S. Army, through the United States Army Corps of Engineers (USACE), is performing an Environmental Assessment (EA) as required under the National Environmental Policy Act (NEPA) and 32 CFR Part 651 in support of the development and preparation of the Rivanna Station Real Property Master Plan (RPMP). The RPMP identifies short and long range components for developing and managing real property, and provides guidance related to the execution of those projects.

This document provides preliminary information regarding the EA to facilitate agency and interested organization review and comment. The document includes the following sections:

- Background
- Proposed Action
- Preliminary Purpose and Need
- Preliminary Alternatives
- Environmental Analysis
- Preliminary Schedule

Fort Belvoir is requesting that interested federal, state and local agencies and organizations review the attached scoping document and provide comments. In order to identify issues early in the EA process, it is requested that all comments be provided by December 19, 2014. Comments may be submitted at the November 20, 2014 scoping meeting, mailed to the address listed below or provided via e-mail to rbassarab@hntb.com.

Please submit written comments to:

K. Royce Bassarab, AICP
Environmental Planner
HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, VA 22206

Rivanna Station
Environmental Assessment
Scoping Informational Document

Background

Rivanna Station was acquired by the Federal Government in the late 1990s and currently consists of approximately 76 acres of land. The Station is located in Albemarle County, Virginia, approximately 12 miles north of the city of Charlottesville, Virginia and approximately 95 miles driving distance from the Fort Belvoir Main Post area.

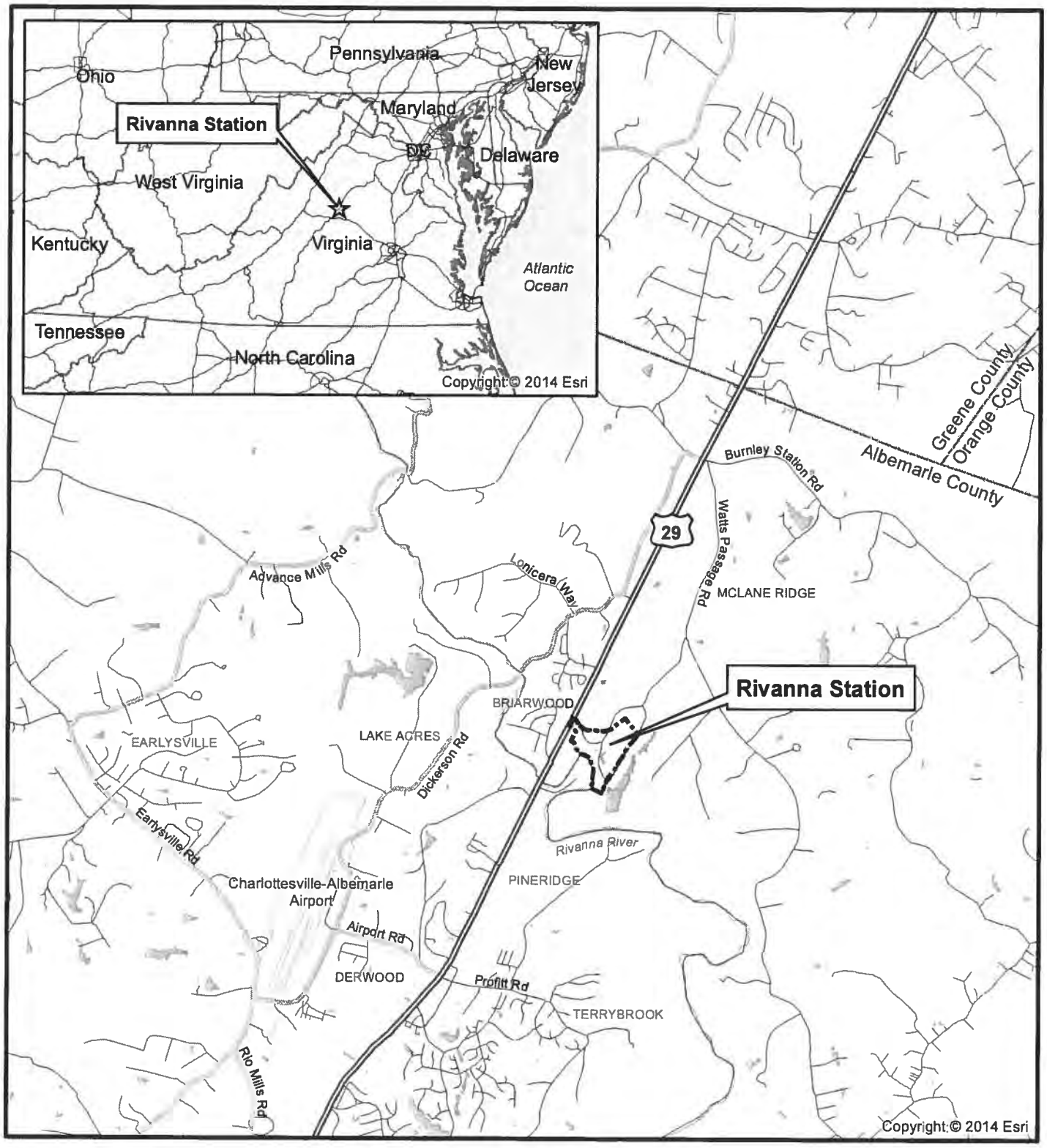
Rivanna Station is home to three primary mission partners reporting directly to the DoD: the National Ground Intelligence Center (NGIC), Defense Intelligence Agency (DIA), and the National Geospatial-Intelligence Agency (NGA).

INSCOM, headquartered on Fort Belvoir, conducts intelligence, security and information operations for military commanders and national decision makers. NGIC, one of INSCOM's major subordinate commands, is the Defense Department's primary producer of ground forces intelligence. DIA is a DoD combat support agency that produces, analyzes, and disseminates military intelligence information to combat and non-combat military missions. NGA provides timely, relevant, and accurate geospatial intelligence in support of national security.

NGIC operations at Rivanna Station are housed in the Nicholson Building, a 258,000 square foot facility constructed in 2000. DIA operations associated with the Joint Use Intelligence Analysis Facility (JUIAF) at Rivanna Station are housed in the Rowe Building, a 170,500 square foot facility constructed in 2010. The NGA personnel on Rivanna Station are co-located in the Rowe and Nicholson buildings. The Station also includes a Child Development Center (CDC), Access Control Point (ACP) and Visitor Control Center buildings, and a Remote Distribution Facility (RDF). Current mission functions which are located off-site include personnel in leased office space located immediately to the northeast of the existing campus (ULC #1); parking located on leased property immediately to the north of the existing campus; and warehousing and deliveries screening functions located in leased space in a remote location in downtown Charlottesville.

The U.S. Army, through USACE, is performing an EA as required under NEPA to evaluate the development and preparation of the installation's RPMP, per Army regulations. Army procedures to comply with NEPA are set forth in 32 CFR Part 651, *Environmental Analysis of Army Actions*. Under the guidance provided in NEPA and in 32 CFR Part 651, all federal actions must be environmentally reviewed. An EA is intended to facilitate agency planning and informed decision-making, helping proponents and other decision makers understand the potential extent of environmental impacts of a proposed action and its alternatives, and whether those impacts (or cumulative impacts) are significant.

The contents of an EA include the need for the proposed action, alternatives to the proposed action, environmental impacts of the proposed action and alternatives; and documentation of agency coordination. The EA results in either a Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS). If Fort Belvoir determines that this proposed action may have a significant impact on the quality of the human environment, then an EIS will be prepared.



Legend

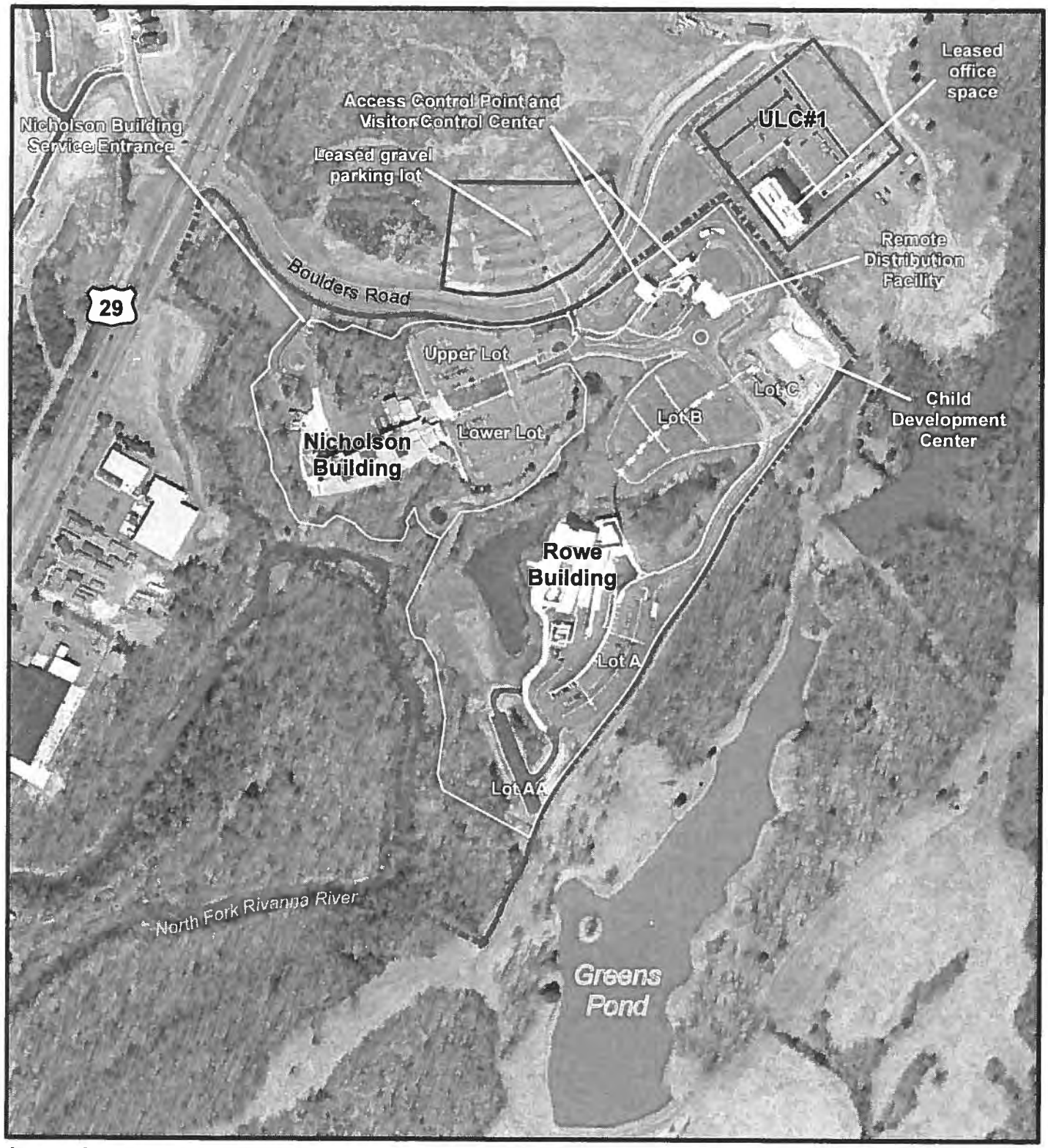
- Rivanna Station
- Highway
- Major Road
- Local Road
- County Boundary

Location Map

0 1,250 2,500 5,000 Feet

N

Source: Rivanna Station GIS, ESRI
Prepared on 09/30/14



Legend

- Station Boundary
- Leased Facilities
- Station Fenceline

Existing Conditions

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Proposed Action

The development of an Installation RPMP manages the real property assets and includes the identification of potential future actions. The RPMP identified the following potential projects that, if constructed, would more adequately accommodate the existing mission and anticipated organizational and mission changes and realignment.

- Expansion of secure facilities
- Development of a Joint-Use training facility
- Construction of an on-installation warehouse facility
- Construction of an Emergency Services Center
- Construction of secondary and emergency access
- Relocation of parking facilities
- Construction of fitness trails
- Improvements to the water distribution system

Preliminary Purpose and Need

Rivanna Station provides a secure and safe operating environment for key intelligence community mission partners and activities. The Rivanna Station campus currently consists of 75.55 acres of land area that has limited ability to accommodate existing mission functions currently located in leased facilities and leased land located outside the present campus boundaries. The installation has experienced significant growth since its acquisition in the late 1990's and the construction of the first mission partner facility in 2000 (Nicholson Building). The construction of the Rowe Building in 2010 nearly doubled the work force population by adding approximately 850 civilian personnel on the campus and 220 contractors in adjacent leased office space.

In addition to core mission functions, Rivanna Station has also begun to develop complimentary land uses and support activities necessary to provide a more self-sustaining campus for core mission functions and personnel. The current levels of authorized and funded civilian/military permanent force structure include approximately 1,200 staff associated with NGIC, approximately 1,000 staff associated with the DIA, and approximately 400 contractor positions. NGA staff is embedded in the Nicholson and Rowe buildings as required. Current mission functions which are located off-site include personnel in leased office space located immediately to the northeast of the existing campus; parking located on leased property immediately to the north of the existing campus; and warehousing and deliveries screening functions located in leased space in a remote location in downtown Charlottesville.

The ***purpose*** of the proposed action is to accommodate the current and forecast personnel and mission requirements of Rivanna Station within a secure environment.

The ***need*** for the proposed action is to consolidate all personnel within the secure perimeter of Rivanna Station to reduce reliance on leased space, improve security, enhance the force protection condition (a force protection level related to terrorist threats), and provide better mission continuity and connectivity.

Alternatives

A key to the NEPA process is the consideration of reasonable alternatives which would minimize adverse impacts. Potential alternatives will be considered based on their ability to meet the Purpose and Need for the Proposed Action. Four alternatives (one on-site redevelopment (Alternative A) and three expansion alternatives (B, C, and D)) will be considered, in addition to the No Action Alternative. Figures presenting each of the alternatives can be viewed following the descriptions.

No Action Alternative

Consideration of the No Action Alternative is required by NEPA per the Council on Environmental Quality (CEQ) Regulations. The No Action Alternative represents Rivanna Station without an RPMP including future projects.

Alternative A: On-Site Redevelopment

Alternative A focuses all development within the existing property boundary at Rivanna Station. In general, opportunities to accommodate major new development are limited to small in-fill sites or redevelopment of surface parking lots, which represent the only remaining large "developable" land resources located within the current boundaries of Rivanna Station.

Under this alternative, both the lease for parking located north of Boulders Road and the office space and parking at ULC #1 would be terminated. In order to accommodate the parking within existing Rivanna Station property, two new elevated parking structures would be constructed, and a secure addition to either the Nicholson or the Rowe building and a warehouse would be constructed.

Alternative B: Southeast Station Expansion

Alternative B would expand the existing Station boundary to the southeast to accommodate existing and future growth. An undeveloped site lies to the southeast of Rivanna Station between the Rowe Building and Greens Pond. The site is currently undeveloped and is characterized by open fields and wooded areas that slope from a highpoint at the current campus boundary southeastward towards Greens Pond. This potential land acquisition would extend existing force protection measures and improve the security posture on Rivanna Station.

Under this alternative both the lease for parking located north of Boulders Road and the office space and parking at ULC #1 would be terminated. Additional parking and a warehouse facility would be constructed on the expanded property to the southeast. A secure addition to either the Nicholson or the Rowe building and a warehouse would also be constructed.

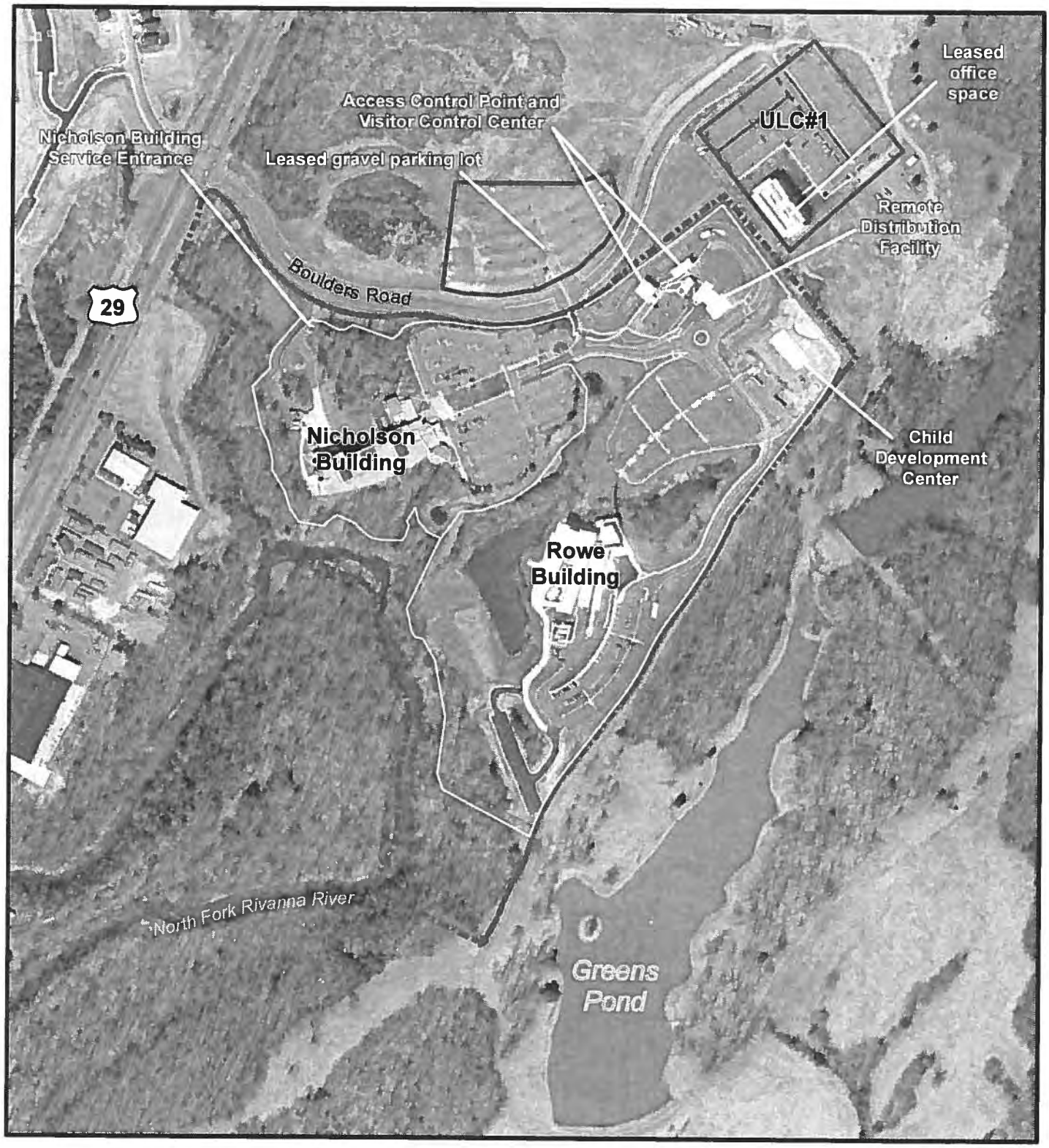
Alternative C: Northeast Station Expansion

Alternative C would expand the existing Station boundary to the northeast in areas currently partially leased by the USACE to accommodate Rivanna Station staff and contractors (ULC #1). With expansion of this existing developed area, the expansion of the Rowe or Nicholson Building would not occur, nor would any additional parking facilities be constructed. This expansion would not, however, alleviate the need to continue to lease the gravel parking lot located to the north of Boulders Road. Other projects as part of the Proposed Action would be constructed throughout the existing Station area.

Alternative D: North Station Expansion

This alternative would expand the existing Station boundary to encompass a vacant lot currently used for leased parking north of Boulders Road. Under this alternative, the station boundary would be split across Boulders Road, which in order to meet the purpose and need would require the construction of a secure bridge overpass over Boulders Road to allow for access through the ACP or construction of an additional ACP within the expanded boundary.

The alternative includes the development of a warehouse facility and additional parking in the expanded area. Implementation of this alternative would require an additional ACP and construction of a secure perimeter, which could not cross Boulders Road. Alternatively, construction of a secure perimeter could be combined with a pedestrian bridge that crosses Boulders Road. Other projects as part of the Proposed Action, including the expansion of the Rowe or Nicholson Building, would be constructed throughout the existing Station area.



Legend

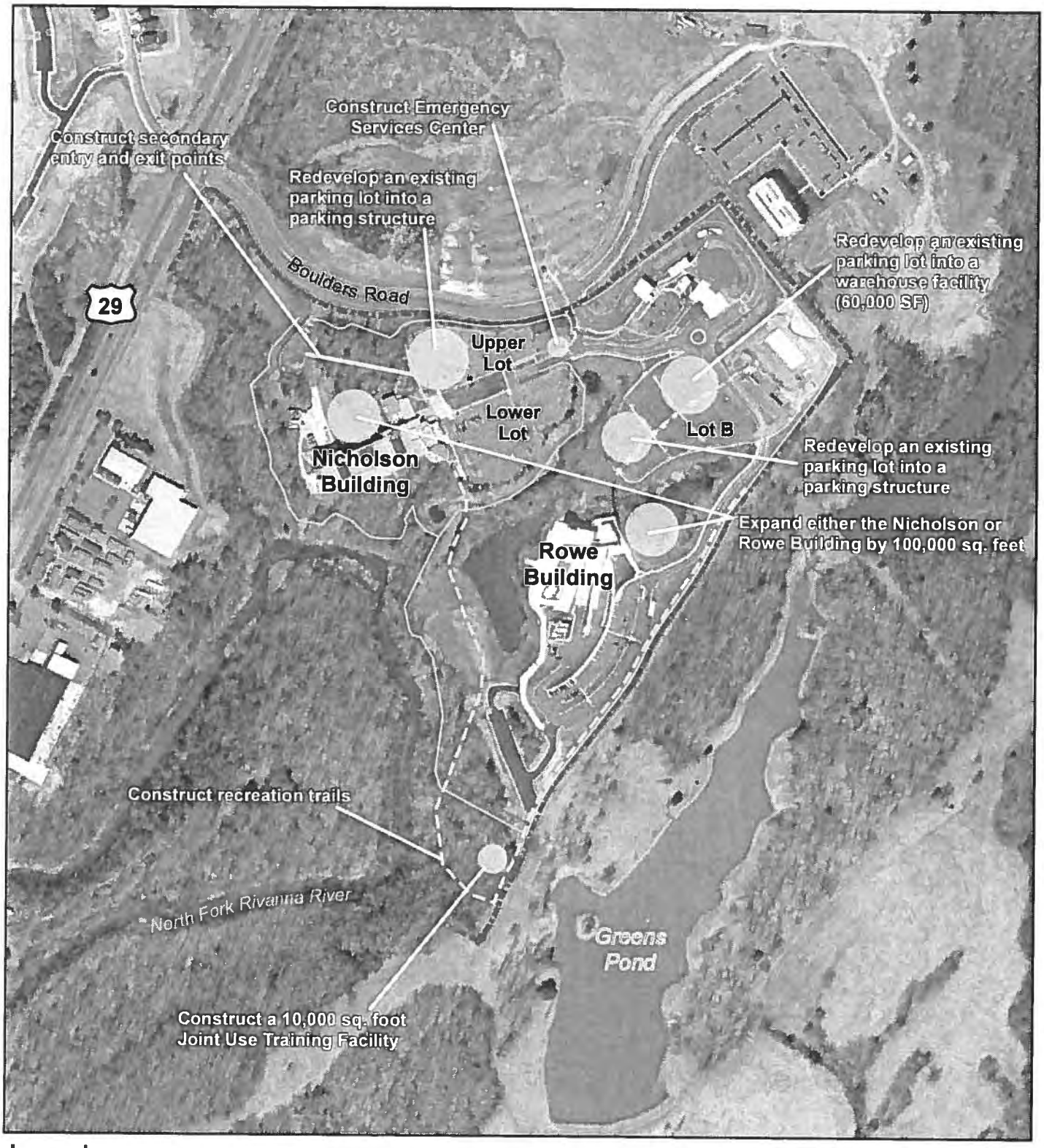
- Existing Station Boundary
- Existing Station Fenceline
- Leased Facilities

No Action Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14



Legend

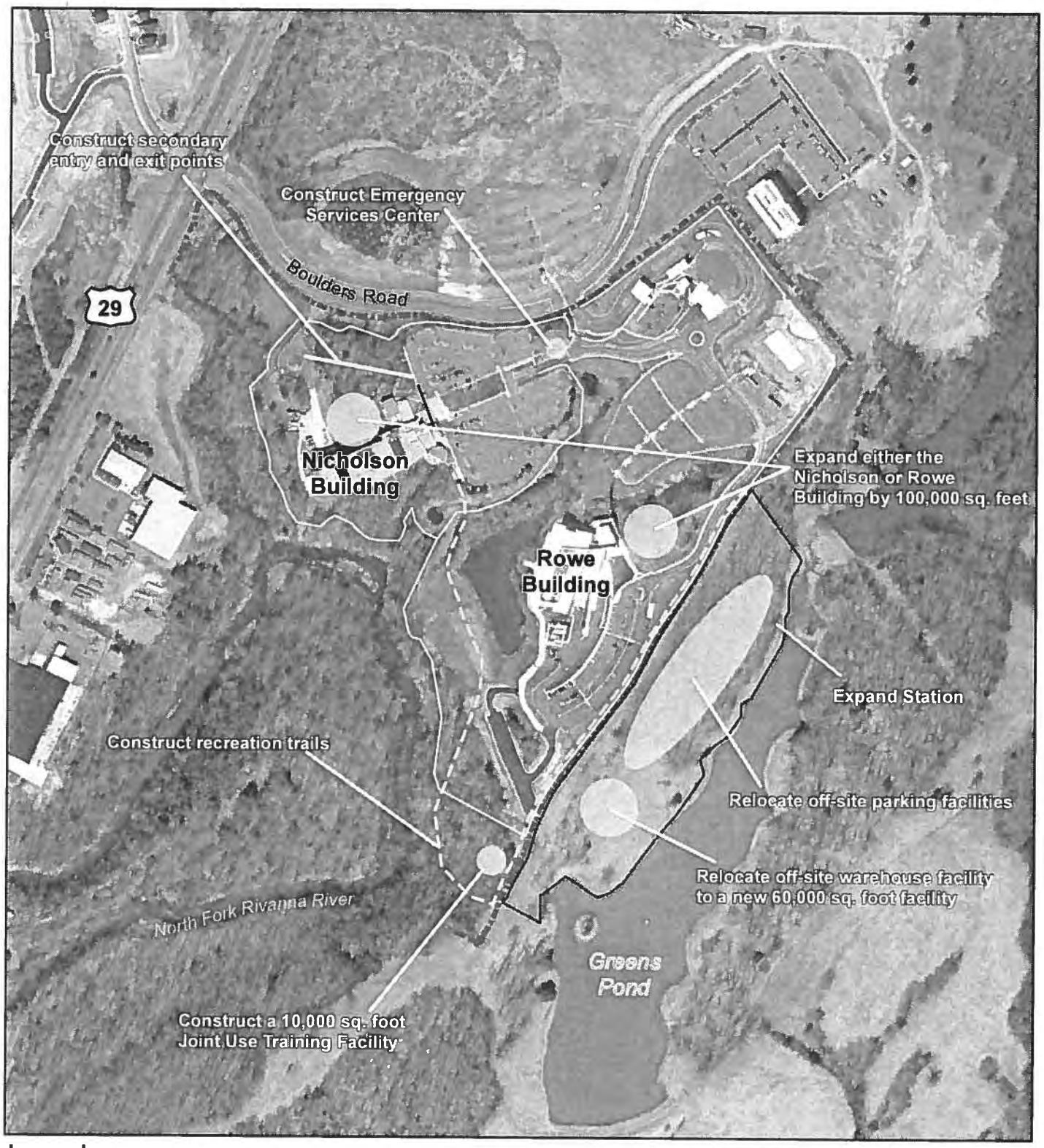
- Station Boundary
- Station Fenceline
- Recreation Trail
- Ingress / Egress

Alternative A
On-Site Redevelopment Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14



Legend

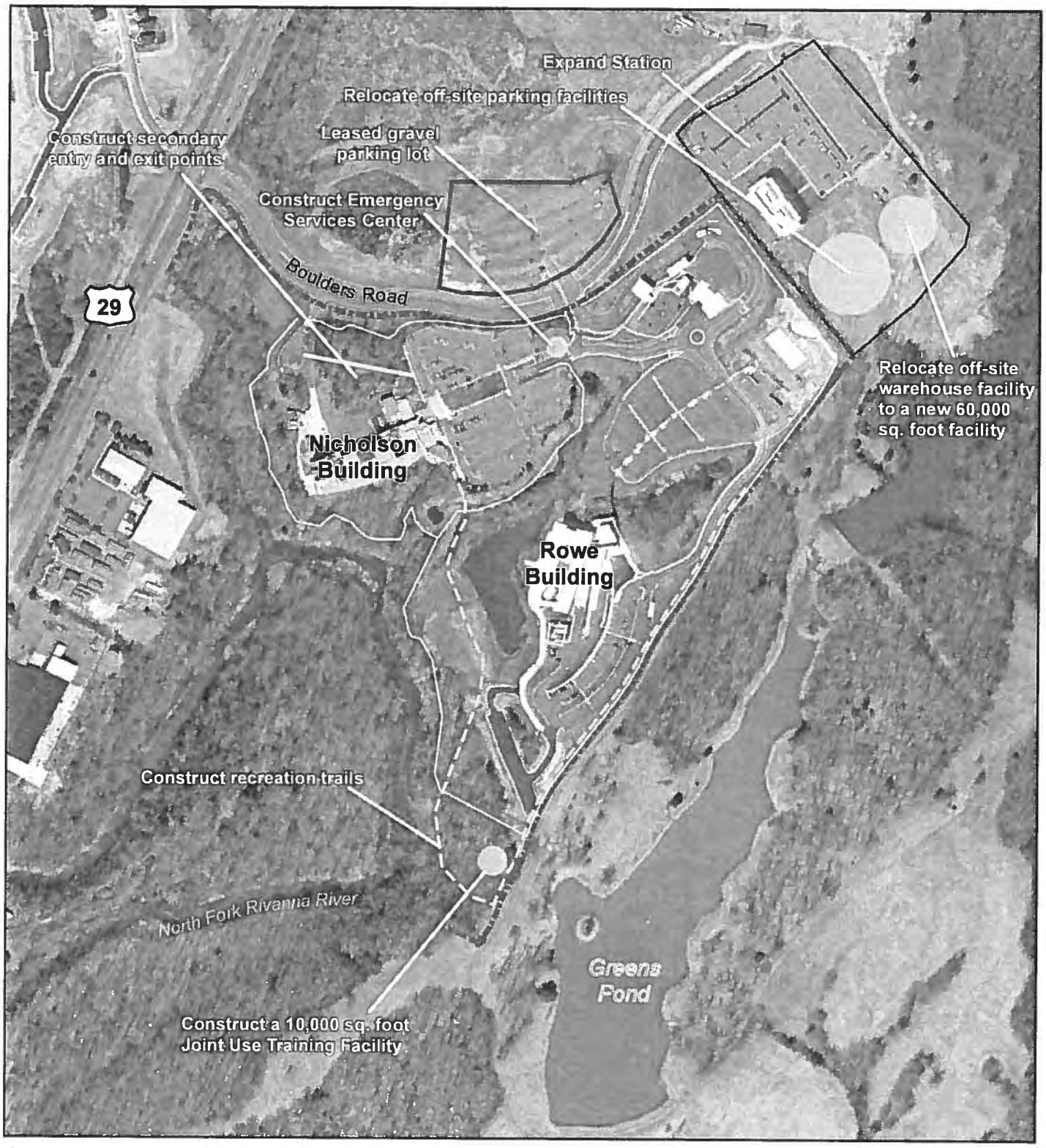
- Existing Station Boundary
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Alternative B
Southeast Station Expansion Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14



Legend

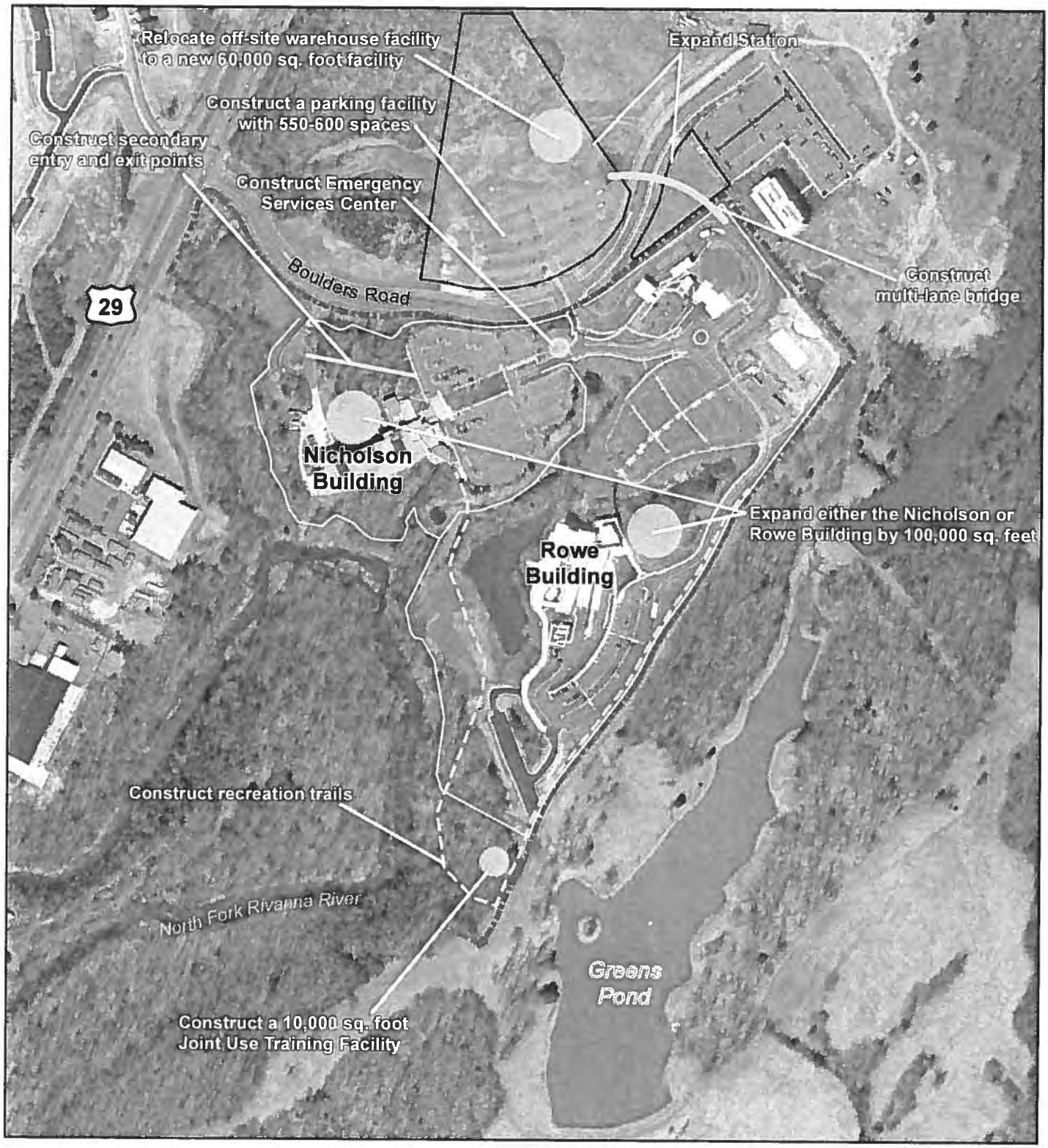
- Existing Station Boundary
- Leased Facilities
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Alternative C
Northeast Station Expansion Alternative

0 125 250 500 Feet

N

Sources: Ft. Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14



Legend

- Existing Station Boundary
- Existing Station Fenceline
- Approximate Expansion Area
- Recreation Trail
- Ingress / Egress

Sources: Ft Belvoir DPW, Aerial (Google Earth), 04/15/13
Prepared on 09/30/14

Alternative D
North Station Expansion Alternative

0 125 250 500 Feet

N

Environmental Analysis

The CEQ regulations implementing NEPA (40 CFR Part 1500) require documentation succinctly describing the environment of the area(s) to be affected by the alternatives under consideration, as well as a discussion of the impacts in proportion to their significance. The affected environment under the Proposed Action Alternative(s) ranges from site-specific physical and natural resources to broader regional concerns (i.e., air quality variables, noise, infrastructure, socioeconomic conditions, community facilities and services, transportation and traffic).

The EA will assess the environmental impacts of the Proposed Action and the reasonable alternatives that are carried forward for detailed evaluation. While all of the environmental resource categories will be addressed in the EA, the major emphasis is expected to be on those resources listed below.

- Cultural Resources
- Water Resources Management
- Land Use
- Traffic and Transportation Systems
- Vegetation and Wildlife Habitats

For the remainder of the environmental resource categories, little or no analysis is expected to be necessary. The EA will provide succinct documentation as to why these resources would not be affected or only minimally impacted.

Preliminary Schedule

The preliminary schedule for the EA is provided below. Note that there will be another opportunity to participate in the development of the EA beyond this scoping effort. It is anticipated that the Draft EA will be available for agency and public review and comment in the spring of 2015. Comments on the Draft EA will be addressed as part of the preparation of the Final EA.

EA Steps	2014			2015				
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Conduct Scoping								
Prepare Draft EA								
Publish Draft EA for Review								
Comment Period								
Prepare Final EA								
Issue Finding								

From: Fowler, Keith (DEQ)
To: Royce Bassarab
Cc: Howard, Janine (DEQ)
Subject: RE: Army Rivanna Station Scoping
Date: Wednesday, November 05, 2014 4:52:11 PM

Mr. Bassarab – Below are the general comments we typically provide for inquiries of this nature. These comments provide you with general information related to DEQ programs which should be considered in the implementation of this project. Also, you may wish to refer to DEQ's Environmental Impact Reviews web site, http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview.aspx. We are glad to discuss specifics for any aspects of this project with you as it relates to any DEQ programs. Please let me know if you have any other questions or need any additional information regarding this matter.

1. Water Quality and Wetlands. Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers. The Army Corps of Engineers is the final authority for an official confirmation of whether there are federal jurisdictional wetlands or other surface waters that may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs). If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact Eric Millard at DEQ-VRO (540-574-7813, Eric.Millard@deq.virginia.gov) to determine the need for any permits prior to commencing work that could impact surface waters or wetlands.

2. Erosion and Sediment Control and Storm Water Management. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Also, denuded areas should be promptly revegetated following construction work. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities an E&S plan for disturbances less than 10,000 square feet. A storm water management plan may also be required. As of 7/1/13, DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. For any land disturbing activities equal to one acre or more, you are required to apply to DEQ for registration coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. Specific questions regarding the Storm Water Management Program requirements should be directed to Gary Flory at DEQ-VRO (540-574-7840, Gary.Flory@deq.virginia.gov).

3. Air Quality. Fugitive dust generated during construction must be controlled in accordance with DEQ regulations. This may require, but is not limited to, measures such as the prompt removal of spilled or tracked dirt or other materials from paved streets, limited application of water to suppress dust, and washing of construction vehicles and paved roadways immediately adjacent to construction sites. 9 VAC 5-50 et seq. governs abatement of visible emissions and fugitive dust emissions. Do not use water for dust control to the extent that it results in runoff to surface waters or wetlands. Land clearing wastes (vegetative debris) generated during construction should be properly managed in accordance with applicable regulations and local ordinances. Shredding/chipping of vegetative debris and reuse on-site is usually recommended over open burning. Any open burning of vegetative debris must be performed in accordance with the Open Burning Regulation and coordinated with the local fire official to ensure that all local ordinances are met. A copy of DEQ's open burning regulation and related information are accessible from http://www.deq.virginia.gov/Programs/Air/AirQualityPlans/OpenBurning.aspx. Also, no open burning should take place in violation of the Virginia Waste Management Regulations, http://leg1.state.va.us/000/reg/TOC09020.HTM. Contact Keith Fowler at DEQ-VRO (540-574-7812, Keith.Fowler@deq.virginia.gov) for any questions related to the proper control of fugitive dust, or open burning requirements and prohibitions.

Installation / operation / modification of any fuel burning equipment (e.g., generators, wood chippers/grinders, boilers, etc.) or other sources of air pollutants may be subject to registration and/or air permitting requirements; for questions regarding this, please contact Janardan Pandey at DEQ-VRO (540-574-7817, Janardan.Pandey@deq.virginia.gov). If a petroleum storage tank is to be utilized, registration with DEQ may be required for that as well; for questions regarding this, please contact David Forrer at DEQ-VRO (540-574-7837, David.Forrer@deq.virginia.gov).

4. **Solid and Hazardous Wastes, and Hazardous Substances.** DEQ administers the Virginia Waste Management Regulations, http://leg1.state.va.us/000/reg/TOC09020.HTM. All solid wastes, hazardous wastes, and hazardous materials, including construction and demolition (C&D) wastes and universal wastes (batteries, fluorescent lights, refrigerants, mercury switches, mercury thermostats, etc.), must be managed in accordance with all applicable federal, state, and local environmental regulations. The generation of hazardous wastes should be minimized and solid wastes generated at the site should be reduced at the source, reused, or recycled. Also, if you encounter any improperly disposed solid or hazardous wastes, or petroleum contaminated soils, you should contact DEQ-VRO. You may wish to refer to the web link for "What's in My Back Yard?", http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx, to help you determine areas where residual contamination may be more likely. Contact Graham Simmerman at DEQ-VRO (540-574-7865, Graham.Simmerman@deq.virginia.gov) for any questions related to management / disposal of C&D / universal wastes. Manage / dispose of any asbestos-containing materials (ACMs) in accordance with Virginia Department of Labor and Industry (DOLI) regulations. Contact Doug Wiggins at DOLI (Richard.Wiggins@doli.virginia.gov, 540-562-3580, ext. 131) for any questions related to management / disposal of ACMs. Any open burning must be conducted in compliance with the Open Burning Regulation, 9 VAC5 Chapter 130. Contact Keith Fowler at DEQ-VRO (540-574-7812, Keith.Fowler@deq.virginia.gov) for any questions related to open burning requirements and prohibitions. If petroleum-contaminated soils are encountered during excavation work, or if old petroleum tanks need to be removed or replaced, contact David Forrer at DEQ-VRO (540-574-7837, David.Forrer@deq.virginia.gov).

5. Pesticides and Herbicides. DEQ recommends that herbicides or pesticides for construction or landscape maintenance, when necessary, be used in accordance with the principles of integrated pest management, and that the least toxic pesticides that are effective in controlling the target species be used. Please contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information. If applying aquatic pesticides to surface waters, the applicant must comply with the DEQ's Pesticide General Permit, http://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination/PermitsFees.aspx#pest.

6. Natural Heritage Resources. The Virginia Department of Conservation and Recreation (DCR) Division of Natural Heritage (DNH) can search its Biotics Data System for occurrences of natural heritage resources from the area indicated on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered animal and plant species, unique or exemplary natural communities, and significant geologic communities. We recommend that the DNH be contacted at (804) 786-7951 to secure updated information on natural heritage resources before commencing the project.

7. Wildlife Resources. The Virginia Department of Game and Inland Fisheries (DGIF) exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species. DGIF determines likely impacts on fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts. For more information, see the DGIF website at http://www.dgif.virginia.gov or contact Ray Fernald at (804) 367-6913.

8. Historic and Archaeological Resources. *Section 106 of the National Historic and Preservation Act of 1966*, as amended, requires that activities that receive federal funding must consider effects to properties that are listed or eligible for listing on the National Register of Historic Places. The Department of Historic Resources (DHR) conducts reviews of projects to determine their effect on historic structures or cultural resources. If applicable, contact DHR. In the event that archaeological resources are encountered during construction, immediately contact Ms. Ethel Eaton, DHR, at (804) 367-2323.

9. Pollution Prevention. DEQ recommends that construction projects incorporate the principles of pollution prevention including the following recommendations:

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content and toxicity level should be considered.
- Consider contractors' commitment to the environment when choosing contractors. Also, specifications regarding raw material selection (alternative fuels and energy sources) and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable practices and materials in infrastructure and construction and design. These could include asphalt and concrete containing recycled materials and integrated pest management in landscaping.
- Integrate pollution prevention techniques into maintenance and operation activities to include source reduction (fixing leaks, energy efficient products).

Pollution prevention measures are likely to reduce potential environmental impacts and reduce costs for material purchasing and waste disposal. For more information, please visit our web site at http://www.deq.virginia.gov/Programs/PollutionPrevention.aspx.

10. **Energy Conservation**. Any structures should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. For example, energy efficiency of the structures can be enhanced by maximizing the use of the following:

- thermally-efficient building shell components (roof, wall, floor, and insulation);
- high efficiency heating, ventilation, air conditioning systems; and
- high efficiency lighting systems.

Matt Heller at the Department of Mines, Minerals and Energy, (434) 951-6351, may be contacted for assistance in meeting this challenge.

11. Potable Water. Installation of potable water lines and appurtenances must comply with the State's Waterworks Regulations. The Virginia Department of Health (VDH) administers both federal and state laws governing waterworks operation. For more information, contact the VDH's Lexington Office of Water Programs at (540) 463-7136.

12. Wastewaters. DEQ has approval authority over wastewater discharges per the State Water Control Law and corresponding regulations. This includes any wastewaters generated from washing vehicles or other practices relevant to this project. DEQ also has approval authority over plans and specifications for sewage collection systems and treatment works (except drainfields and other on-site systems approved by the local health department), per the Sewage Collection and Treatment (SCAT) Regulations, 9 VAC 25-790. Any wastewaters generated by this project must be properly managed and disposed. For additional information and assistance, contact Brandon Kiracofe at DEQ-VRO (540-574-7892, Brandon.Kiracofe@deq.virginia.gov).

B. Keith Fowler | Deputy Regional Director | DEQ-Valley Regional Office | 4411 Early Road | P. O. Box 3000 | Harrisonburg, VA 22801 | 540-574-7812 | Keith.Fowler@deq.virginia.gov

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From: Fulcher, Valerie (DEQ)
Sent: Tuesday, November 04, 2014 10:36 AM
To: rbassarab@hntb.com; Gary.W.Tysor@usace.army.mil; christopher.w.landgraf.civ@mail.mil; dmullins@albemarle.org; dgif-ESS Projects (DGIF); Rhur, Robbie (DCR); odwreview (VDH); Coe, Stephen (DEQ); Narasimhan, Kotur (DEQ); Fowler, Keith (DEQ); Gavan, Larry (DEQ); Sepety, Holly (DEQ); Nicholson, Shantelle (DEQ); Kirchen, Roger (DHR); Ray, Alfred C. (VDOT); Jordan, Elizabeth (VDOT); whudson@tjpdc.org
Cc: Howard, Janine (DEQ)
Subject: Army Rivanna Station Scoping

Good morning—attached is a request for scoping comments on the following:

U.S. Army Garrison Fort Belvoir, Scoping for Draft Environmental Assessment for Rivanna Station Real Property Master Plan, Albemarle County

If you choose to make comments, please send them directly to the project sponsor (see attached) and copy the DEQ Office of Environmental Impact Review. We will coordinate a review when the NEPA document is completed.

If you have any questions regarding this request, please call Janine Howard at 804/698-4299; email Janine.Howard@deq.virginia.gov

Valerie

Valerie A. Fulcher, CAP-OM, Executive Secretary Sr.

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

629 E. Main St., 6th Floor

Richmond, VA 23219

804/698-4330

804/698-4319 (Fax)

email: Valerie.Fulcher@deq.virginia.gov

www.deq.virginia.gov

From:	Troy Andersen
To:	Royce Bassarab
Subject:	RE: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessment
Date:	Thursday, November 06, 2014 10:55:07 AM
Attachments:	image001.png

Royce – Thank you so much for providing that! One more follow-on question: do you expect that any of the expansion options included in the RPMP will have aquatic impacts?

Thanks,
Troy

From: Royce Bassarab [mailto:rbassarab@HNTB.com]
Sent: Thursday, October 30, 2014 10:20 AM
To: 'Troy Andersen'
Subject: RE: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessment

Hello Troy, and thanks for the response.

Attached is a preliminary IPAC report that we completed in 2013, and an updated official species list ran today. Please let me know if I can provide any additional information.

Thank you,
Royce

K. Royce Bassarab, AICP
(703) 253-5803
HNTB Corporation

From: Troy Andersen [mailto:troy_andersen@fws.gov]
Sent: Wednesday, October 29, 2014 10:38 PM
To: Royce Bassarab
Subject: RE: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessment

Royce – at this stage of the game, it would be extremely helpful if you could follow one of the steps of our online project review process. Define the action area in IPaC and send me a copy(s) of the official species list. Visit https://www.fws.gov/northeast/virginiafield/endangered/projectreviews_step2.html for additional information.

Thanks,
Troy

From: Royce Bassarab [mailto:rbassarab@HNTB.com]
Sent: Thursday, October 23, 2014 11:17 AM

To: 'troy_andersen@fws.gov'
Subject: Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent

Good morning,

On behalf of U.S. Army Garrison Fort Belvoir, HNTB Corporation is inviting your participation in the Agency Scoping process for a Draft Environmental Assessment (EA) for Rivanna Station. Rivanna Station, located near Charlottesville, Virginia, is one of four geographically separate locations of the U.S. Army Garrison Fort Belvoir, Virginia.

The attached scoping information package and letter of invitation for an Agency Scoping meeting are included for your information and review. Fort Belvoir will conduct an Agency Scoping Meeting on November 20, 2014 from 2:00 p.m. to 4:00 p.m. at the following address:

Best Western Plus Charlottesville Airport Inn & Suites
Rivanna Room
5920 Seminole Trail
Ruckersville, VA 22968
(434) 985-1855

Please feel free to forward this information to others within your organization who may wish to participate. In order to ensure that adequate meeting facilities are provided, please provide notice if you intend to attend the meeting in person before November 1st, 2014 via email to rbassarab@hntb.com.

Please do not hesitate to contact me with any questions or comments in the meantime.

Thank you in advance for your assistance on this important project.

Royce Bassarab
HNTB Corporation

K. Royce Bassarab, AICP
Project Manager

HNTB Corporation
2900 South Quincy Street, Suite 200
Arlington, Virginia 22206
Direct Phone: 703.253.5803
www.hntb.com

100 YEARS OF INFRASTRUCTURE SOLUTIONS

From:	Pete Gorham
To:	Royce Bassarab
Cc:	Gary O"Connell; Jeremy Lynn; Alex Morrison; Michael Vieira
Subject:	Letter of Invitation and Scoping Information Package - Rivanna Station Environmental Assessent
Date:	Thursday, November 13, 2014 2:54:14 PM

Dear Mr. Bassarab,

This email serves to inform you that the Albemarle County Service Authority will not be sending a representative to the Agency Scoping Meeting on November 20, 2014. We have reviewed the package you provided and we will prepare comments and forward them to you before December 19, 2014. Our comments will be related to the existing water and wastewater utilities in the vicinity of Rivanna Station, as well as, the Jurisdictional Area Boundary set for us by the Albemarle County Board of Supervisors. Please feel free to contact me if you have any questions. Thanks.

~Pete Gorham
Director of Engineering
Albemarle County Service Authority

From:	Lee Catlin
To:	Royce Bassarab
Cc:	Wayne Cilimberg
Subject:	Comments Regarding Rivanna Station Real Property Master Plan and Environmental Assessment
Date:	Friday, December 19, 2014 9:31:04 AM
Attachments:	image001.jpg HNTB Letter - Dec_18_2014.pdf

Hi Royce,
It was very nice meeting you at the scoping meeting several weeks ago, we enjoyed the presentation and appreciate the opportunity to submit our comments which are attached. Please let me know if you have questions or need more information, we are very eager to support the Station in its expansion planning. Happy holidays!
Best,
Lee Catlin

Lee Catlin
Assistant County Executive
401 McIntire Road
Charlottesville, VA 22902
(434)296-5841, ext. 3425, office
(434)531-8092, cell
lcatlin@albemarle.org | www.albemarle.org

ACED_Logo_small.jpg

COUNTY OF ALBEMARLE
Office of the County Executive
401 McIntire Road
Charlottesville, Virginia 22902-4596
(434) 296-5841 FAX (434) 296-5800

December 18, 2014

K. Royce Bassarab, AICP
Environmental Planner
HNTB Corporation
2900 South Quincy Street, Ste. 200
Arlington, Virginia 22206

rbassarab@hntb.com

Dear Mr. Bassarab:

On behalf of Albemarle County I am pleased to provide our response regarding the Rivanna Station Real Property Master Plan and Environmental Assessment. We appreciate the opportunity to be part of the review process and are anxious to submit our comments regarding the proposed alternatives.

Before providing our detailed response, the County wishes to express our strong support for Rivanna Station and our continued commitment to the success of the station's mission. Rivanna Station is a very valued installation in our County with many positive benefits to our economy and to our larger community. We understand the desire to accommodate the station's current and forecast personnel and mission requirements within a secure environment, and stand ready to work with all involved parties to assess alternatives and to identify and implement the desired solution.

Our Community Development staff has conducted a careful assessment of the four alternatives (A, B, C and D) and provides the following comments:

- **Alternative A** – Desirable as it focuses all development within the existing secured facility boundary, thereby maximizing the opportunity to use the remaining Office/R&D/Flex/LI designated area outside the boundary for additional development. New development may be visible from Entrance Corridor (EC) – for any development which is visible, design in accordance with EC guidelines is desired. Steep slopes designated for preservation ("preserved slopes") exist in the location of the 10,000 sq. ft. Joint Use Training Facility. Avoiding any grading/development impacts to these slopes is desired if this area is chosen for development.

- **Alternative B** – Area to the southeast of the existing property boundary is not consistent with Low Density Residential designation in Places 29, but has been considered for Office/R&D/Flex/LI designation in the past and could be appropriate. An "island" of land designated Low Density Residential and Rural Area on Tax Map 33, Parcel 15 would remain to the south of this area for which access would need to be provided. Due to close proximity to the existing pond, providing appropriate stormwater management will be important. Steep

slopes designated for preservation ("preserved slopes") exist in the location of the 10,000 sq. ft. Joint Use Training Facility. Avoiding any grading/development impacts to these slopes is desired if this area is chosen for development.

- **Alternative C** – Area shown for new development outside the existing secured facility boundary is designated Office/R&D/Flex/LI in Places 29. Relocated warehouse and relocated off-site parking are in area approved for industrial development in a prior Zoning Map Amendment (ZMA). Expanding the secured facility area to include the existing gravel parking lot further limits access possibilities to Tax Map 35, Parcel 5C. New development may be visible from Entrance Corridor (EC) – for any development which is visible, design in accordance with EC guidelines is desired. Preserved steep slopes exist in location of 10,000 sq. ft. Joint Use Training Facility.

- **Alternative D** – Area shown for new development outside the existing secured facility boundary is designated Office/R&D/Flex/LI in Places 29. Expanding the secured facility area to include a relocated warehouse and the existing gravel parking lot further limits access possibilities to Tax Map 35, Parcel 5C. New development may be visible from Entrance Corridor (EC) – for any development which is visible, design in accordance with EC guidelines is desired. Preserved steep slopes exist in location of 10,000 sq. ft. Joint Use Training Facility.

Please let us know if you have questions about any of these comments or if you need further information. Thank you again for the opportunity to provide comments.

Sincerely,

Lee P. Catlin

Lee P. Catlin
Assistant County Executive

LPC/dbm
14.003

Attachment 7:

Comment Response Matrix

Comment Response Matrix
EA and Draft FNSI
Rivanna Station Real Property Master Plan

Name/Agency	#	Category	Comment	Response
Federal Agency (code F)				
United States Environmental Protection Agency (EPA)	F.1-1	Alternatives	EPA agrees with the Army's assessment of Alternative A – On-Site Redevelopment as the Preferred Alternative, since it would cause less damage to the biological and physical environment than Alternative B. However, EPA has questions regarding impacts to surface water, groundwater and wetlands that are addressed in the Technical Comments (enclosed).	Comment noted.

EPA	F.1-2	Water Resources /Aquatic Resources	Page ES-4 and elsewhere in the EA states, "The Alternatives would not directly and only minimally affect the North Fork Rivanna River ..." Please discuss the "minimal" impacts and/or indirect impacts that the proposed action would have on the North Fork Rivanna River and potential effects (if any) these impacts may have on the water quality/aquatic resources. As stated on page 3-22, "...the North Fork Rivanna River is impaired for recreation use due to violations of e-coli bacteria water quality standards." Please discuss potential impacts that may add to the already compromised 303(d) listed impaired water.	Text in Section 3.6.3.2 was edited as follows:
				"Alternative A would not alter local surface water or groundwater. As shown on Figure **3-16**, all proposed development would be located outside the 500-year floodplain and the Waters of the U.S. Minimal indirect impacts to water quality and the Waters of the U.S. would be expected due to minor sedimentation during construction, changes in local drainage and an increase in impervious surface. **Table 3.6** shows that the amount of impervious surface would increase by 1.6 acres with Alternative A. This increase in impervious surface along with minor construction sedimentation and localized drainage changes would be expected to result in only minimal changes to water quality and Waters of the U.S. because:
				• Nearly all of the projects would disturb 10,000 square feet or greater of land and therefore,
				  o Water quality during construction is protected by Virginia's Erosion and Sediment Control Law and Regulations which require the development and implementation of an erosion and sediment control plan.
				  o Water quality is protected by the Albemarle County Water Protection Ordinance under which a stormwater management plan must be developed and implemented to meet the

Name/Agency	#	Category	Comment	Response
				required water quality and water quantity design regulations specified in 9 VAC25-870-62 through 9VAC25-870-92. • Section 438 of EISA applies to the proposed Warehouse Facility, Joint Use Training Facility, Emergency Services Center and the expanded Nicholson Building. • With the exception of the boundary fence, all of the proposed projects would be located outside of the 100 foot buffers along perennial streams and wetlands." Text in Section 3.6.3.3 was edited as follows: "Alternative B would not alter local surface water or groundwater. As shown on **Figure 3-17**, all proposed development would be located outside the 500-year floodplain and the Waters of the U.S. Minimal indirect impacts to water quality and the Waters of the U.S. would be expected due to minor sedimentation during construction, changes in local drainage and an increase in impervious surface. **Table 3.7** shows that the amount of impervious surface would increase by 6.6 acres with Alternative B. This increase in impervious surface along with minor construction sedimentation and localized drainage changes would be expected to result in only minimal changes to water quality and Waters of the U.S. for the same reasons discussed under Alternative A." Section ES.4.5 was edited in a similar manner. Also, according to the Bacteria TMDL Development for the Rivanna River Mainstem, North Fork Rivanna River, Preddy Creek and Tributaries, Meadow Creek, Mechums River, and Beaver Creek Watersheds Final Report (Virginia Department of Environmental Quality, 2008),"The potential sources of fecal coliform include run-off from livestock grazing, manure applications, industrial processes,

Name/Agency	#	Category	Comment	Response
				residential, and domestic pets waste. Some of these sources are driven by dry weather and others are driven by wet weather. The potential sources of fecal coliform in the watershed were identified and characterized. These sources include permitted point sources, failed septic systems and straight pipes, livestock, wildlife, and pets." Neither Alternative A nor B would include livestock grazing, manure applications, industrial process or residential or domestic pet waste and therefore would not increase the amount of fecal coliform in the North Fork Rivanna River.
EPA	F.1-3	Water Resources /Aquatic Resources	Page 3-21 states, "The outfall for the large stormwater pond is a stream that flows from the northeast, and discharges to the North Fork Rivanna River." The stream is depicted in maps provided, but information on the condition, size, and quality was not provided. In addition, please discuss how the proposed actions (specifically, the proposed warehouse and parking structure) may impact the stream on-site.	According to the 2003 wetland delineation the stream is approximately three feet wide with three foot banks. As discussed on page 3-27 of the EA, with the exception of the boundary fence, all of the proposed projects would be located outside of the 100 foot buffers along perennial streams and wetlands. Also, Section 438 of EISA applies to the Warehouse Facility. "Section 438 of Energy Independence and Security Act (EISA) of 2007 applies to the proposed Warehouse Facility, Joint Use Training Facility, Emergency Services Center and the expanded Nicholson Building. Therefore, the predevelopment hydrology must be maintained to the maximum extent technically feasible."
EPA	F.1-4	Water Resources /Aquatic Resources	Page 3-65 states, "No wetlands would be impacted as it is presumed the development would be outside the 100 foot buffer in accordance with the Albemarle County Code Chapter 17 Article VI Stream Buffers." Although wetlands are not anticipated to be directly impacted, the total size of the wetlands in the study area should be provided, proximity to proposed actions specified, and indirect impacts discussed.	The size and proximity of the wetlands are illustrated in Figures 3-16. Detailed information regarding the wetlands delineated in 2013 is provided in Appendix C. Only minimal indirect impacts such as increased sedimentation during construction and changes in local drainage patterns would be expected for the reasons listed in Sections 3.6.3.2 (page 3-27)

Name/Agency	#	Category	Comment	Response
EPA	F.1-5	Water Resources /Aquatic Resources	Page 4-3 states, "Section 404 Wetland Permit- Based on previous survey data, it appears that neither Alternatives A nor B would directly affect Waters of the U.S. and therefore a Section 404 permit would not be required. However, the 2004 jurisdictional determination has expired. Therefore, prior to proceeding with final design, a new survey will be conducted to delineate Waters of the U.S. outside of the area surveyed in 2013." In anticipation of the new wetlands survey and final design, it is important to emphasize that impacts to wetland should be avoided or minimized whenever possible.	In 2015, an additional wetlands survey was completed for the areas outside of the 2013 delineation and no wetlands were identified. As designs are finalized, all impacts to wetlands will be avoided or minimized when possible. Section 4.3 was edited to add the following "Rivanna Station will avoid and minimize impacts to wetlands when possible as part of the design of each of the proposed projects." Section 4.4 was edited to remove reference to additional wetland survey.
EPA	F.1-6	Hazardous Materials and Waste	Page 3-56 states, "One petroleum release was reported at Rivanna Station and the case was closed in 2012." Since no specific information was provided, it is assumed that the petroleum release was cleaned up and petroleum was removed from soils/area, etc. Please discuss extent of release/resources impacted, if any. Where was the release in relation to the actions proposed? EPA is concerned with the location of release, its proximity to the actions proposed, and if there may be residual contaminates in soils, etc. that may need to be addressed prior to commencing work on proposed actions.	The EA was edited to include the following information excerpted from the VDEQ Closure Memo and Closure Letter. On 10/20/12, approximately 187 gallons of diesel fuel overflowed a newly installed emergency power generator tank system at the Rowe Building. The overflow occurred when fuel was transferred from the day tank under the generator to a separate AST. The diesel fuel flowed up out of the AST's vent pipe. According to VDEQ, "Cleanup involved application of absorbent pads, construction of an interceptor trench, removing a large section of a large retaining wall, and removal of approximately 239 tons of contaminated soil. The diesel fuel migrated overland less than 100' from the AST vent. Much of the fuel was recovered with absorbent material, but a significant volume soaked into the ground above the block retaining wall. Although it seeped through the retaining wall, no recoverable free product was encountered during the excavation of the wall and the soil behind it. Residual TPH concentrations in the excavated material ranged [~~were~~] as high as 18,400 mg/kg. Samples of the excavation walls and

Name/Agency	#	Category	Comment	Response
				floor were either non-detect or less than 28 mg/kg, indicating that all soil which may pose a risk had been removed." While there is a manmade lake roughly 900 feet from the release, prompt and thorough cleanup activities prevented the diesel fuel from reaching surface or groundwater. VDEQ closed the case on 1/3/2013 stating no further investigation or corrective action where required at the time.
EPA	F.1-6	Hazardous Materials and Waste	Page 4-2 states, "Rivanna Station will design USTs to meet the technical requirements in 9VAC25-580 et seq., entitled Underground Storage Tanks: Technical Standards and Corrective Action Requirements and provide secondary containment." How many USTs will be added to the Rivanna Station and where will they be located? As page 3-20 states, "...approximately 44% of all homes in the County rely on well water or springs for household use, which includes some residents who use one of 17 public community water systems using wells and springs." Where are the areas of groundwater recharge in the vicinity of the actions proposed? Since there is a considerable number of households relying on groundwater for consumption, please show that the location of the USTs will in no way jeopardize the integrity of the groundwater.	The number and location of the proposed USTs are not known at this time. Design of the individual projects will identify the exact location of any associated UST. Also, in accordance with 9VAC25-580-50, *Performance standards for new UST systems*, secondary containment will be provided if the UST is within 1,000 feet of an existing community system or existing potable drinking water well. "7. Secondary containment. a. Each new or replaced petroleum underground storage tank, or piping connected to any petroleum underground storage tank, installed within 1,000 feet of any existing community water system or existing potable drinking water well must be secondarily contained in accordance with 9VAC25-580-140."

Name/Agency	#	Category	Comment	Response
United States Department of the Interior Fish and Wildlife Service	F.2-1	Fish and Wildlife Resources	Due to increased workload and refinement of our priorities in Virginia, this office will no longer provide individual responses to requests for environmental reviews. However, we want to ensure that U.S. Fish and Wildlife Service trust resources continue to be conserved. When that is not possible, we want to ensure that impacts to these important natural resources are minimized and appropriate permits are applied for and received. We have developed a website that provides the steps and information necessary to allow any individual or entity requiring review/approval of their project to complete a review and come to the appropriate conclusion. This site can be accessed at: http://www.fws.gov/northeast/virginiafield/endangered/projectreviews.html. The website is frequently updated to provide new species/trust resource information and methods to review projects. Refer to the website for each project review to ensure that current information and methods are utilized.	Appendix D, *Biological Resources* provides documentation of use of the noted website and the resulting species conclusions table. Refer to Appendix D Attachment 5.
United States Army Corps of Engineers (USACE)	F.3-1	EA and Alternatives	The EA does an extremely thorough job of evaluating environmental impacts, and I concur that no EIS is needed. I didn't see any concerns. Also, I concur with the preferred alternative (A), which is redevelopment within the existing property. That does a good job of minimizing environmental impacts (which are truly minimal), while meeting the purpose and need of the project	Comment noted.

Name/Agency	#	Category	Comment	Response
USACE	F.3-2	Water Permits	As the EA indicates, no permit will be required from the Corps, and no DEQ Water Protection Permit will be required, since none of the project will impact waters/wetlands. However, a general construction permit, and a Virginia Stormwater permit will be required from DEQ; as well as a land disturbance permit from the locality.	As stated on page 4-3 of the EA – "• Virginia Stormwater Management Program - For projects that would disturb 10,000 square feet or more of land, Rivanna Station will submit stormwater management plans to Fort Belvoir Directorate of Public Works and then to VDEQ for approval. • General Permit for Discharges of Stormwater and Construction Activities and associated Stormwater Pollution Prevention Plan (SWPPP) - For projects that would cause one or more acres of land disturbance, the construction contractor must apply for coverage under the General Permit for Discharges of Stormwater from Construction Activities and prepare a SWPPP." A land disturbance permit from the locality is not required for this project.
USACE	F.3-3	Threatened and Endangered Species	I note that the IPAC species conclusion table in the Appendix, which was completed for USFWS on 7/25/15, indicates "may affect" for the James spinymussel and the Indiana and long-eared bats. "May affect" by itself, means that formal Section 7 consultation will be required, unless the USFWS then decides to reduce the determination to a "May affect, not likely to adversely affect". But, on the other hand, the EA also indicated that a bat survey will be done during the next survey window (May 15 through August 15), and the time-of-year restriction will be adhered to for all tree-clearing activities (April 15 through Sept 15), and that after the surveys, the applicant will also do further coordination with USFWS for bats, and with the USFWS and the National Marine Fisheries Service with regard to the James spinymussel. I concur with that approach; except that no coordination with National Marine Fisheries Service is needed for the mussel; NMFS only has jurisdiction over marine/tidal federally-listed species.	The Final EA (Section 4.4 and ES.4.6) and FNSI were edited to remove "coordination with the National Marine Fisheries Service". The Species Conclusions Table in Appendix D was edited to change "May affect" to "Not likely to adversely affect" for the northern long-eared bat. The mussel survey was submitted to the USFWS as part of the EA (Appendix D). As designs of the proposed projects are developed, additional site specific surveys will be completed as required and Rivanna Station will coordinate with the USFWS regarding the James spinymussel.

Name/Agency	#	Category	Comment	Response
			Also, please note that presently, for any project that either does not find bats, or will adhere to the time of year restriction for tree clearing, the USFWS has indicated that the determination is "Not likely to adversely affect", not "May affect". Also with regard to the mussel, has the mussel survey been shared with USFWS? I did note that one James spinymussel was found several hundred feet downstream of the project. If not already done, I recommend that the applicant share the survey with USFWS now, to see if any further coordination is anticipated (I would not that think that the project would warrant a "may affect" and formal consultation for one individual located so far downstream, unless they feel that potential habitat exists all the way up near the project site). At any rate, as you may know, the IPAC determinations are only good for 90 days so this one will have to be redone anyway, when it gets closer to the construction time, because the USFWS has said that IPAC is regularly updated and new listings and finds are possible. But based on what I see herein, I think it is likely that the effect determination will be "not likely to adversely affect" and no formal consultation required. But again, once the bat surveys are done, and if any further mussel surveys are needed, then continue coordination with USFWS.	

Name/Agency	#	Category	Comment	Response
State Agency (code S)				
Commonwealth of Virginia Department of Historic Resources	S.1-1	Historic Resources	The Department of Historic Resources (DHR) has received for our review and comment a Environmental Assessment (EA) for the Real Property Master Plan at the Rivanna Station located at Charlottesville, Virginia. The EA includes a number of aspirational undertakings on the installation which may or may not occur based on funding availability and/or changing priorities. The individual projects included in the Master Plan have the potential to affect historic properties listed in or eligible for the National Register of Historic Places if such properties are present. Therefore, we request that the Army consult with DHR pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800 on each project separately when appropriate.	Commented noted. As stated in the FNSI, the U.S. Army will continue to consult with the Virginia Department of Historic Resources for ground disturbing projects. "There are no historic properties on or eligible to be listed on the National Register of Historic Places within the area of potential effect. Therefore, neither Alternative A nor B would adversely affect a historic property. However, in accordance with 36 CFR Part 800, Rivanna Station will continue to consult with the Virginia Department of Historic Resources for ground disturbing projects."
Commonwealth of Virginia Department of Environmental Quality (DEQ) Valley Regional Office (VRO)	S.2-1	Wetlands and Water Quality	1(b) Agency Findings. The DEQ Valley Regional Office (VRO) states that the disturbance of any surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers (Corps). The Corps is the final authority for an official confirmation of whether there are federal jurisdictional wetlands or other surface waters that may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional.	In 2015, an additional wetlands survey was completed for the areas outside of the 2013 delineation and no wetlands were identified. As designs are finalized, additional site specific surveys will be completed as required and all impacts to wetlands will be avoided or minimized when possible.

Name/Agency	#	Category	Comment	Response
DEQ VRO	S.2-2	Wetlands and Water Quality	1(c) Agency Recommendations. DEQ VRO recommends the avoidance and minimization of surface water impacts to the maximum extent practicable. Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized by using Best Management Practices (BMPs).	Comment noted. As discussed on page 3-27 of the EA, with the exception of the boundary fence, all of the proposed projects would be located outside of the 100 foot buffers along perennial streams and wetlands.
DEQ VRO	S.2-3	Wetlands and Water Quality	1(d) Requirement. A VWPP may be required. Contact DEQ VRO if construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands to determine the need for any permits prior to commencing work that could impact surface waters or wetlands.	Comment noted. As discussed on page 3-27 of the EA, with the exception of the boundary fence, all of the proposed projects would be located outside of the 100 foot buffers along perennial streams and wetlands.
DEQ Air Division	S.3-1	Air Quality	2(b) Ozone Attainment Area. According to the DEQ Air Division, the project site is located in an ozone attainment area.	Comment noted.
DEQ Air Division	S.3-2	Air Quality	2(c)(i) Fugitive Dust. During land-disturbing activities, fugitive dust must be kept to a minimum by using control methods outlined in 9VAC5-50-60 et seq. of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following: • Use, where possible, water or suitable chemicals for dust control during the proposed demolition and construction operations and from material stockpiles; • Install and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials; • Cover open equipment for conveying materials; and • Promptly remove spilled or tracked dirt or other materials from paved streets and dried sediments resulting from soil erosion. Do not use water for dust control to the extent that it results in runoff to surface waters or wetlands.	Comment noted. As stated on page 4-1 of the EA, "Rivanna Station will require contractors to use best management practices to minimize construction air emission including fugitive dust. Fugitive dust will be minimized in accordance with 9VAC5-50-90, *Standard for fugitive dust/emissions*."

Name/Agency	#	Category	Comment	Response
DEQ Air Division	S.3-3	Air Quality	2(c)(ii) Open Burning. If project activities include the burning of vegetative debris or use of special incineration devices in the disposal of land clearing debris, this activity must meet the requirements under 9VAC5-130 et seq. of the regulations for open burning, and it may require a permit. The regulations provide for, but do not require, the local adoption of a model ordinance concerning open burning. Contact officials with the appropriate locality to determine what local requirements, if any, exist. No open burning shall take place in violation of the Virginia Waste Management Regulations. Shredding/chipping of vegetative debris and reuse on-site is usually recommended over open burning. A copy of DEQ's open burning regulation and related information are accessible from www.deq.virginia.gov/Programs/Air/AirQualityPians/OpenBurning.aspx.	Comment noted.
DEQ Air Division	S.3-4	Air Quality	2(c)(iii) Permitting. Installation/operation /modification of stationary or portable fuel- burning equipment (e.g., generators, wood chippers/grinders, boilers, etc.) or other sources of air pollutants may be subject to registration and/or air permitting requirements.	Comment noted. As stated on page 4-3 “Rivanna Station will revise its existing permit to include and new station sources such as generators.”
DEQ Office of Stormwater Management (OSM)	S.4-1	Erosion and Sediment Control / Stormwater Management	3(b) Requirements. DEQ OSM did not respond to DEQ's request for comments. However, based on responses to similar projects, regulatory guidance for the control of nonpoint source pollution is presented below.	Comment noted.
DEQ	S.4-2	Erosion and Sediment Control / Stormwater Management	3(b)(i) Erosion and Sediment Control and Stormwater Management Plans. The applicant and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with VESCL&R and VSWML&R, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal	Comment noted. The EA identifies the requirement for erosion and sediment control plans on pages 3-24, 3-27, 4-1, 4-2 and 4-3.

Name/Agency	#	Category	Comment	Response
			nonpoint source pollution mandates (e.g. Clean Water Act-Section 313). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land- disturbing activities that result in the total land disturbance of equal to or greater than 10,000 square feet would be regulated by VESCL&R. Accordingly, the applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to the DEQ regional office that serves the area where the project is located for review for compliance .The applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy (Reference: VESCL 62.1-44.15 et seq.).	

Name/Agency	#	Category	Comment	Response
DEQ	S.4-3	Erosion and Sediment Control / Stormwater Management	3(b)(ii) General Permit for Stormwater Discharges from Construction Activities (VAR10). The operator or owner of a construction project involving land-disturbing activities equal to or greater than one acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the VSMP Permit Regulations. General information and registration forms for the General Permit are available on DEQ's website at http://www.deq. virginia .gov/ Programs/Water/StormwaterManagemenWSMPPermits /ConstructionGeneral Permit.aspx (Reference: VSWML 62.1-44.15 et seq.; VSMP Permit Regulations 9VAC 25-870-10 et seq.}.	Comment noted. The EA discusses the General Permit for Stormwater Discharges from Construction Activities on pages 3-24, 3-27, 4-1, 4-2 and 4-3.
DEQ Division of Land Protection and Revitalization (DLPR)	S.5-1	Solid and Hazardous Waste Management	4(b) Database Search. DEQ's Division of Land Protection and Revitalization (DLPR) identified one petroleum release near the project area: ID# 20136037 -Joint Use Intelligence Analysis Facility, 2460 Defense Way, Charlottesville, VA 22911. Event Date: 12-28-2012. Status: Closed	The referenced petroleum release is identified on page 3-56 of the EA. Refer to response to comment #F.1-6 from the EPA.
DEQ DLPR	S.5-2	Solid and Hazardous Waste Management	4(c) Requirements. • Any soil that is suspected of contamination or wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. • All structures being demolished or removed should be checked for asbestos- containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM and LBP are found, in addition to the federal waste-related regulations mentioned above, state regulations 9VAC20-81-640 for ACM and 9VAC20-60- 261 for LBP must be followed.	Comment noted.

Name/Agency	#	Category	Comment	Response
DEQ DLPR	S.5-3	Solid and Hazardous Waste Management	4(d) Agency Recommendations. • Evaluate the identified petroleum release to determine if the project will impact or be impacted by the project. • DEQ encourages all projects to implement pollution prevention principles, including: o the reduction, reuse and recycling of all solid wastes generated; and o the minimization and proper handling of generated hazardous wastes.	Refer to response to comment #F.1-6 from the EPA. As stated on page 3-57 -… the contractor will be required to prepare a site Health and Safety Plan for each project to ensure the safety of construction workers at the construction site and to document procedures if hazardous materials are discovered during construction." As stated on page 4-2 of the EA, - "Rivanna Station will require contracts for construction to include a performance requirement to divert a minimum of 50 percent of construction waste from landfill disposal. Also, contractors will be required to submit a construction and demolition waste management plan."
Virginia Department of Conservation and Recreation's (OCR) Division of Natural Heritage (DNH)	S.6-1	Natural Heritage Resources	5(b) Agency Findings- Natural Heritage Resources. According to the information currently in OCR DNH's files, the North Fork Rivanna River- Swift Creek Stream Conservation Unit (SCU) intersects and is immediately adjacent to the project site. The natural heritage resource associated with this site is the James spinymussel (Pieurobema collina, G1/S1/LE/LE). This species is currently classified as endangered by the US Fish and Wildlife Service (FWS) and the Department of Game and Inland Fisheries (DGIF). The Atlantic pigtoe (Fusconaia masoni, G2/S2/SOC/LT) has historically been documented in the North Fork Rivanna River. This species is currently listed as threatened by DGIF. It is also tracked as a species of concern by the FWS; however, this designation has no official legal status. The North Fork Rivanna River has been designated by DGIF as a Threatened and Endangered Species Water for the James spinymussel and Atlantic Pigtoe. According to the EA, there is potential for the Northern Long-eared bat (Myotis septentrionalis, G1G3/S3/LT/NL) and the Indiana bat (Myotis sodalis, G2/S1/LE/LE) to occur within the project area. Indiana bats are currently classified as endangered by the FWS and the DGJF.	As stated in Section 4.4, *Permits and Other Requirements*, of the EA: "Section 7 of the Endangered Species Act – Prior to construction, Rivanna Station will coordinate with the FWS regarding the potential to affect the Indiana bat, northern long-eared bat and James spinymussel." As stated in Section 3.7.1.3 "*Threatened and Endangered Species and Habitats,* of the EA: "Coordination undertaken for the 2008 EA indicated that the Atlantic pigtoe had been documented in the North Fork Rivanna River in the vicinity of Rivanna Station. However, no Atlantic pigtoe were identified during the August 2013 mussel survey." As stated in Section 4.3, *Best Management Practices, Mitigation and Avoidance Measures*, of the EA: "Tree removal would only occur outside the northern long-eared bat or Indian bat active season (April 15 through September 15)."

Name/Agency	#	Category	Comment	Response
OCR DNH	S.6-2	Natural Heritage Resources	5(c) Agency Findings- Threatened and Endangered Plant and Insect Species. OCR states that the current activity will not affect any documented state-listed plant and insect species.	Comment noted.
OCR DNH	S.6-3	Natural Heritage Resources	5(d) Agency Findings- Natural Area Preserves. There are no State Natural Area Preserves under OCR's jurisdiction in the project vicinity.	Comment noted.
OCR DNH	S.6-4	Natural Heritage Resources	5(e) Agency Recommendations. • Contact OCR DNH to re-submit project information and a map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized. • Due to the documentation of the James spinymussel in the North Fork Rivanna River during a 2013 survey and the time that has passed since the mussel survey was conducted, conduct an inventory for these resources in the study area. If the James spinymussel or other rare mussels are found during the survey, OCR recommends relocation to another site with suitable habitat. • Submit survey results to OCR DNH from the bird survey mentioned on page 3 of the EA. • Implement and strictly adhere to applicable state and local erosion and sediment control/storm water management laws and regulations to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities. • Due to the legal status of the James spinymussel, coordinate with the FWS. • OCR recommends coordination with the FWS regarding potential impacts upon Northern Long-eared bats and the Indiana bat associated with tree removal. Upon completion, OCR requests a copy of the Northern Long-eared bat survey.	Comment noted. As stated in the Draft FNSI, “In addition, a survey will be conducted for northern long-eared bats and Indiana bats and Section 7 consultation with the FWS will be conducted prior to removing the vegetation.” And “The Alternatives would not directly and only minimally affect the North Fork Rivanna River, and therefore would not impact the federally listed endangered James spinymussel. However, prior to construction, Rivanna Station will coordinate with the FWS regarding the James spinymussel.”

Name/Agency	#	Category	Comment	Response
Virginia Department of Game and Inland Fisheries (DGIF)	S.7-1	Wildlife Resources	6(b) Agency Finding. The North Fork Rivanna River, immediately adjacent to this property, has been designated a Threatened and Endangered Species Water due to the presence of federally listed endangered James spinymussels and state-listed threatened Atlantic pigtoes. In addition, this segment of the North Fork Rivanna has been designated a Potential Anadromous Fish Use Area. It does not appear that impacts upon North Fork Rivanna River or any of its tributaries are proposed under any of the alternatives. In that case, DGIF does not anticipate any of the alternatives to result in adverse impacts upon this resource and the species it supports to result from the proposed work.	Comment noted.
DGIF	S.7-2	Wildlife Resources	6(c) Agency Recommendations. • If work in North Fork River or any of its tributaries is planned, coordinate with DGIF and FWS. • To best protect listed mussels known from nearby waters, DGIF recommends the following: o Maintain undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. Maintain undisturbed naturally vegetated buffers of at least 200 feet in width on all perennial tributaries to North Fork Rivanna River. Maintain undisturbed naturally vegetated buffers of at least 300 ft on both sides of North Fork Rivanna River. o Design stormwater controls to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens)	Comment noted. No work in the North Fork River or its tributaries is anticipated. As noted in the Draft FNSI - "With the exception of the boundary fence all of the proposed projects would be located outside the 100 foot buffers along perennial streams and wetlands." Also, for both alternatives, the proposed project are located outside the 200 foot buffer for the Herring Branch and the 300 foot buffer for the North Fork Rivanna River with the exception of the proposed exercise trail and the boundary fence. While natural vegetation would be disturbed to construct the proposed exercise train and boundary fence, no increase in impervious surfaces would occur. As stated in the Draft FNSI – "Section 438 of Energy Independence and Security Act (EISA) of 2007 applies to the proposed Warehouse Facility, Joint Use Training Facility, Emergency Services Center and the expanded Nicholson Building. Therefore, the predevelopment hydrology must be maintained to the maximum extent technically feasible." Neither alternative would alter local surface water or groundwater. Additionally, all proposed development under

Name/Agency	#	Category	Comment	Response
			and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes. • Coordinate with the FWS regarding potential impacts upon federally listed threatened northern long-eared bats associated with tree removal, if such is proposed. • To minimize overall impacts to wildlife and our natural resources, DGIF offers the following comments about development activities: o Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. o Adhere to a time-of-year restriction from March 15 through August 15 of any year for all tree removal and ground clearing to protect nesting resident and migratory songbirds. o Adhere to erosion and sediment controls during ground disturbance.	both alternatives would be located outside of Waters of the U.S. and the 500-year floodplain. Minimal indirect impacts to water quality and the Waters of the U.S. would be expected due to minor sedimentation during construction, changes in local drainage and an increase in impervious surface. Alternative A and Alternative B would result in increases of approximately 1.6 and 6.6 acres of impervious surface, respectively. These increases in impervious surface along with minor construction sedimentation and localized drainage changes would be expected to result in only minimal changes to water quality and Waters of the U.S. because:. • Nearly all of the projects would disturb 10,000 square feet of greater of land and therefore, o Water quality during construction is protected by Virginia's Erosion and Sediment Control Law and Regulations which require the development and implementation of an erosion and sediment control plan. o Water quality is protected by the Albemarle County Water Protection Ordinance under which a stormwater management plan must be developed and implemented to meet the required water quality and water quantity design regulations specified in 9 VAC25-870-62 through 9VAC25-870-92. • Section 438 of the Energy Independence and Security Act (EISA) of 2007 applies to the proposed Warehouse Facility, Joint Use Training Facility, Emergency Services Center and the expanded Nicholson Building. Therefore, the predevelopment hydrology must be maintained to the maximum extent technically feasible. As stated in Section 4.3, *Best Management Practices, Mitigation and Avoidance Measures*, of the EA: "Rivanna Station will conduct a survey for Indiana bats and northern long-eared bats between May 15 and August 15, and

<table>
<tr><th>Name/Agency</th><th>#</th><th>Category</th><th>Comment</th><th>Response</th></tr>
<tr><td></td><td></td><td></td><td></td><td>Section 7 consultation with the FWS prior to removing the vegetation.”
and
“Tree removal would only occur outside the northern long-eared bat or Indiana bat active season (April 15 through September 15).”

It is noted that the Indiana bat and northern long-eared bat time-of-year restriction for tree removal generally coincides with the nesting resident and migratory songbirds time-of-year restriction for tree removal..</td></tr>
<tr><td>DCR Division of Planning and Recreational Resources</td><td>S.8-1</td><td>Planning and Recreational Resources</td><td>7(b) Agency Finding. The Rivanna River is a designated Scenic River; however, due to the projects distance from the resource, OCR DPRR does not anticipate any impacts to this scenic resource.</td><td>Comment noted.</td></tr>
<tr><td>Virginia Department of Forestry</td><td>S.9-1</td><td>Forest Resources</td><td>8(b) Agency Finding. Based on the materials provided, DOF concurs with the option A, the preferred option proposed. Under option A, only 1.4 acres of trees out of a total of 230 acres of deciduous forest would be removed and that would be within already highly fragmented and developed areas.</td><td>Comment noted.</td></tr>
<tr><td>Virginia Department of Health (VDH) Office of Drinking Water (ODW) (Original Comment)</td><td>S.10-1</td><td>Water Supply</td><td>9(b) Agency Findings. VDH ODW states that there may be impacts to public drinking water sources due to this project if the mitigation efforts outlined below are not implemented.

It appears that the following public groundwater wells are located within a 1,000-foot radius of the project site:
<table>
<tr><th>PWSID</th><th>District</th><th>CNYCTY</th><th>SYSNAME</th><th>FACNAME</th></tr>
<tr><td>2003206</td><td>DISTRICT 10</td><td>ALBEMARLE</td><td>CHRIS GREENE LAKE</td><td>WELL 1(PARK SIDE)</td></tr>
</table></td><td>The ODW revised this comment on 12/8/15. Refer to Comment S.10-1A</td></tr>
</table>

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<tr><th>Name/Agency</th><th>#</th><th>Category</th><th>Comment</th><th>Response</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td>2003206</td><td>DISTRICT 10</td><td>ALBEMARLE</td><td>CHRIS GREENE LAKE</td><td>WELL 2 (LAKE SIDE)</td></tr>
</table>

The following surface water intakes are located within a 5-mi1e radius of the project site:
<table>
<tr><th>PWSID</th><th>SYSNAME</th><th>FACNAME</th></tr>
<tr><td>2003525</td><td>NORTH RIVANNA WTP</td><td>NORTH FORK RIVANNA RIVER</td></tr>
<tr><td>2003725</td><td>SOUTH RIVANNAWTP</td><td>SOUTH FORK RIVANNA RIVER</td></tr>
</table>

The project falls within 5 miles into the watersheds of the following public surface water sources:
<table>
<tr><th>PWSID</th><th>SYSNAME</th><th>FACNAME</th></tr>
<tr><td>2003525</td><td>NORTH RIVANNA WTP</td><td>NORTH FORK RIVANNA RIVER</td></tr>
<tr><td>2003725</td><td>SOUTH RIVANNAWTP</td><td>SOUTH FORK RIVANNA RIVER</td></tr>
</table>
</td><td></td></tr>
<tr><td>VDH ODW (Revised Comment)</td><td>S.10-1A</td><td>Water Supply</td><td>We have compared your request with our original findings and noticed we had an error. Please accept the following as the revised project review comments (see below). We are attaching the requested GIS data to support the latter findings regarding wells.
Changes include:
- Removed bold format from wells near the project site
- Revised watersheds
Project Name: Army: Rivanna Station Real Property Master Plan Project
Project #: 15-169F
UPC #: N/A
Location: Albemarle County/City of Charlottesville
VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to</td><td>Based on the GIS data provided by the VDH ODW, the wells are located approximately one mile from Rivanna Station.</td></tr>
</table>

<table>
<tr><th>Name/Agency</th><th>#</th><th>Category</th><th>Comment</th><th>Response</th></tr>
<tr><td></td><td></td><td></td><td>proximity to public drinking water sources (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems must be verified by the local utility.
It appears that the following public groundwater wells are located within a 1 mile radius of the project site (wells within a 1,000 ft. radius are formatted in bold):
<table>
<tr><th>PWSID</th><th>District</th><th>CNYCTY</th><th>SYSNAME</th><th>FACNAME</th></tr>
<tr><td>2003206</td><td>DISTRICT 10</td><td>ALBEMARLE</td><td>CHRIS GREENE LAKE</td><td>WELL 1 (PARK SIDE)</td></tr>
<tr><td>2003206</td><td>DISTRICT 10</td><td>ALBEMARLE</td><td>CHRIS GREENE LAKE</td><td>WELL 2 (LAKE SIDE)</td></tr>
</table>
The following surface water intakes are located within a 5 mile radius of the project site:
<table>
<tr><th>PWSID</th><th>SYSNAME</th><th>FACNAME</th></tr>
<tr><td>2003525</td><td>NORTH RIVANNA WTP</td><td>NORTH FORK RIVANNA RIVER</td></tr>
<tr><td>2003725</td><td>SOUTH RIVANNA WTP</td><td>SOUTH FORK RIVANNA RIVER</td></tr>
</table>
The project is within the watershed of the following public surface water sources (intakes where the project falls within 5 miles into their watershed are formatted in bold):</td><td>For all projects that would disturb 10,000 square feet or greater of land erosion and sediment control plans will be developed in accordance with Virginia’s Erosion and Sediment control Law and Regulations.

To comply with the Virginia Stormwater Management Program, Rivanna Station would develop stormwater management plans and pollution prevention plans for projects that would disturb 10,000 square feet or more of land. The pollution prevention plans would include best management practices to minimize discharge of pollutants.</td></tr>
</table>

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<tr><th>Name/Agency</th><th>#</th><th>Category</th><th>Comment</th><th>Response</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th>PWSID</th><th>SYSNAME</th><th>FACNAME</th></tr>
<tr><td>4075735</td><td>JAMES RIVER CORRECTIONAL CTR</td><td>JAMES RIVER INTAKE</td></tr>
<tr><td>2065480</td><td>LAKE MONTICELLO</td><td>RIVANNA RIVER</td></tr>
<tr><td>4760100</td><td>RICHMOND, CITY OF</td><td>RAW WATER INTAKE</td></tr>
<tr><td>4087125</td><td>HENRICO COUNTY WATER SYSTEM</td><td>HENRICO RAW WATER INTAKE</td></tr>
<tr><td>3670800</td><td>VIRGINIA-AMERICAN WATER CO.</td><td>APPOMATTOX RIVER</td></tr>
</table>
Best Management Practices should be employed on the project site including Erosion & Sedimentation Controls as well as Spill Prevention Controls & Countermeasures. Care should be taken while transporting materials in and out of the project site, as to prevent impacts to surface water intakes within 5 miles.
There may be impacts to public drinking water sources due to this project if the mitigation efforts outlined above are not implemented.
</td><td>In accordance with the Fort Belvoir Integrated Pest Management (IPM), non-chemical control efforts will be used to the maximum extent possible before pesticides are used at Rivanna Station.

For projects that would cause one or more acres of land disturbance, the construction contractor will apply for coverage under the General Permit for Discharges of Stormwater from Construction Activities and prepare a stormwater pollution prevention plan.</td></tr>
<tr><td>VDH ODW</td><td>S.10-2</td><td>Water Supply</td><td>9(c) Agency Recommendations.
• Implement best management practices, including erosion and sedimentation controls as well as spill prevention controls and countermeasures, should be employed on the project site.
• Field mark and protect well(s) within a 1,000-foot radius of the project site from accidental damage due to construction activities.
• Take care while transporting materials in and out of the project site, as to prevent impacts to surface water intakes within 5 miles.</td><td>The ODW revised this comment on 12/8/15. Refer to Comment S.10-1A</td></tr>
</table>

Name/Agency	#	Category	Comment	Response
VDH	S.10-3	Water Supply	9(d) Requirements. Potential impacts to public water distribution systems or sanitary sewage collection systems must be verified by the local utility.	As stated in Section 4.4, *Permits and Other Requirements*, of the EA: "Any extension of the water and sewer system will required plan review and approval by the Albemarle County Service Authority and modification of the Utility Agreement."
VDH	S.10-4	Water Supply	9(e) Water Conservation Recommendations. DEQ recommends that the responsible party considers the following water conservation measures to the extent practicable: • Grounds should be landscaped with hardy native plant species to conserve water as well as minimize the need to use fertilizers and pesticides. • Convert turf to low water-use landscaping such as drought resistant grass, plants, shrubs and trees. • Consider installing low-flow restrictors/aerators to faucets. • Improve irrigation practices by: o upgrading with a sprinkler clock; watering at night, if possible, to reduce evapotranspiration (lawns need only 1 inch of water per week and do not need to be watered daily; over watering causes 85 percent of turf problems); o installing a rain shutoff device; and o collecting rainwater with a rain bucket or cistern system with drip lines. • Check for and repair leaks during routine maintenance activities. • Consider replacement of old equipment with new high-efficiency machines to reduce water usage by 30-50 percent per use.	As stated in Section 4.3, Best Management Practices , Mitigation and Avoidance Measures, of the EA: "Rivanna Station will pursue strategies to reduce the need for potable water and volume of wastewater generated at Rivanna Station. Strategies could include using condensation wastewater produced by chiller operations at the Rowe Building for landscape irrigation. Also new facilities could be designed to use gray water (water from bathroom sinks) for landscape irrigation and toilet flushing."

Name/Agency	#	Category	Comment	Response
Virginia Department of Transportation	S.11-1	Transportation Impacts	10(b) Agency Findings. The VDOT Culpeper District has the following findings: • The EA does not indicate that the improvements would increase the number of personnel at the facility or the traffic to/from the station. • The study states that the project "would have little to no impact on the existing traffic on Route 29 or at the signal at the intersection of Route 29 and Boulder Road". The current roadways internal to the site are privately maintained or internal to the Station. The project is planned to consolidate the operations to further internalize the facility and reduce the need for external trips form the station. This project should reduce the traffic impacts from the development on the private roadways and should result of no additional impact to the public roadways. • During construction there may be temporary increases in traffic to and from the site and some changes in traffic patterns internal to the development.	Comment noted.
Virginia Department of Transportation	S.11-2	Transportation Impacts	10(c) Agency Recommendation .Consider the impacts of the construction to traffic patterns within the facility as the project is designed to minimize the impacts.	Comment noted.
Virginia Department of Aviation (DOAV)	S.12-1	Aviation	(b) Agency Finding. The DOAV states that the Rivanna Station is less than 2.5 miles from the Charlottesville-Albemarle Airport.	Comment noted.

Name/Agency	#	Category	Comment	Response
DOAV	S.12-2	Aviation	11(c) Agency Recommendations. • Submit Form 7460 to the FAA to ensure that the proposed facility modifications and new facilities, especially the communication tower, would not create a hazard to air navigation for the airport and that Part 77 safety areas are not penetrated. • Coordination should take place with the airport to insure continuing operations at the airport in accordance with its master plan and compatibility between uses.	Comment noted. As it pertains to Rivanna Station a FAA Form7460 must be filed for: (a) Any construction or alteration that is more than 200 feet AGL at its site. (b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway. Rivanna is approximately 1.3 miles from the airport (roughly 6,800 feet). The Airport elevation is approximately 639 feet MSL and Rivanna Station's highest point is approximately 515 MSL. Therefore, an object over approximately 190 feet AGL would require Rivanna Station to file a FAA Form 7460. 6800/100=68 feet 639 + 68 – 515 = 192 Section 4.4 of the EA was edited to add requirement to submit Form 7460.
DOAV	S.12-3	Aviation	11(d) Requirements. • The design of the proposed facility modifications and new facilities, especially the communication tower, must prevent interference with pilots' safe ingress and egress at the airport, both in its present configuration and with planned improvements. In addition to the height restrictions mentioned in the EA. the design, including exterior lighting, needs to prevent glare and related concerns from interfering with activity at the airport. • Operational activities at the project site should not pose a hazard or impediment to pilots using the airport, especially the approaches for Runway 21. Such hazards or impediments include interference with navigation and communication equipment, interference with existing and planned approach	The Final EA was edited to include the following statement in Section 4.4 Permits and Other Requirements: Rivanna Station will coordinate with the Virginia Department of Aviation when designing future facilities to prevent interference with pilot's safe ingress and egress and avoid creation of a hazard or impediment to using Charlottesville-Albemarle Airport. Given the distance from the airport, FAA Advisory Circular 150/5370-2E, Operational Safety on Airports During Construction, is not applicable.

Name/Agency	#	Category	Comment	Response
			procedures for all aircraft published for or by the airport, generation of glare from building materials and external lights, and attraction of wildlife. • Construction activity in the vicinity of an airport, especially involving heavy equipment , must be in compliance with FAA Advisory Circular 150/5370-2E Operational Safety on Airports During Construction.	
Virginia Marine Resources commission (VMRC)	S.13-1	Subaqueous Land Impacts and Tidal Wetlands	12(b) Agency Finding. If any portion of the subject project involves any encroachments channelward of ordinary high water along natural rivers and streams above the fall line or mean low water below the fall line, a permit may be required from VMRC. Any jurisdictional impacts will be reviewed by VMRC during the Joint Permit Application (JPA) process.	Comment noted. As discussed on page 3-27 of the EA, with the exception of the boundary fence, all of the proposed projects would be located outside of the 100 foot buffers along perennial streams and wetlands.
VMRC	S.13-2	Subaqueous Land Impacts and Tidal Wetlands	12(c) Agency Recommendation. Coordinate with VMRC as necessary regarding the submission of a JPA.	Comment noted. As discussed on page 3-27 of the EA, with the exception of the boundary fence, all of the proposed projects would be located outside of the 100 foot buffers along perennial streams and wetlands.
DEQ Office of Pollution Prevention	S.14-1	Pollution Prevention	13(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction and operation of the facility: • Consider development of an effective Environmental Management System (EMS).An effective EMS will ensure that the proposed facility is committed to minimizing its environmental impacts, setting environmental goals and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program. • Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level and amount of packaging should be considered and can be specified	Comment noted. Fort Belvoir's Public Health Command is currently working on EMS procedures for Fort Belvoir which will include Rivanna Station.

Name/Agency	#	Category	Comment	Response
			in purchasing contracts. • Consider contractors' commitment to the environment when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals. • Choose sustainable materials and practices for infrastructure and building construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.	
DEQ	S.15-1	Pesticides and Herbicides	14. Pesticides and Herbicides. In general, when pesticides or herbicides must be used, their use should be strictly in accordance with manufacturers' recommendations. In addition, to the extent feasible, DEQ recommends that the responsible agent for the project use the least toxic pesticides or herbicides effective in controlling the target species. For more information on pesticide or herbicide use, please contact the Virginia Department of Agriculture and Consumer Services at (804) 786-3501.	Comment noted. As discussed on page 3-56 of the EA - "Fort Belvoir has developed and Integrated Pest Management (IPM) Plan which applies to Rivanna Station. "IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic health and environmental risks." According to the IMP Plan, "Non-chemical efforts will be used to the maximum extent possible before pesticides are used.""
DEQ	S.16-1	Energy Conservation	15. Energy Conservation. Architectural and engineering designers should consider incorporating the energy, environmental, and sustainability concepts listed in the Leadership in Energy and Environmental Design (LEED) Green Building Rating System into the development and procurement of their projects	Comment noted. As stated in the Draft FNSI – "Per Army policy new construction must be built to a standard capable of achieving a U.S. Green Building Council Leadership in Energy Environmental Design (LEED) New Construction Silver rating."

Name/Agency	#	Category	Comment	Response
DEQ	S.16-1	Energy Conservation	15(a) Agency Recommendations. The energy efficiency of facilities can be enhanced by maximizing the use of the following: • thermally efficient building shell components (roof, wall, floor, windows and insulation); • facility siting and orientation with consideration towards natural lighting and solar loads; • high-efficiency heating, ventilation, air conditioning systems; • high-efficiency lighting systems and daylighting techniques; and • energy efficient office and data processing equipment.	Comment noted. As discussed on pages 3-24 and 3-15 of the EA- "Also, all projects will at a minimum be designed to reduce energy used 30 percent over the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 90.1 standards. Sustainable building technologies such as light motion-sensors and high-efficiency HVAC systems would be employed to reduce energy consumption. Strategies are also available to reduce the need for potable water and volume of wastewater generated at Rivanna Station. Currently, condensation wastewater produced by chiller operations at the Rowe Building is eliminated via the sewer system. The volume of wastewater could be reduced by using this water for landscape irrigation. Also, new facilities could be designed to use gray water (water from bathroom sinks) for landscape irrigation and toilet flushing."
Local Government (code L)				
Rivanna Water & Sewer Authority	L.1-1	Water and Wastewater	The Rivanna Water & Sewer Authority has reviewed the Environmental Assessment for the Rivanna Station Real Property Master Plan (RPMP) as prepared by HNTB and dated September 2015 and takes no exception to the findings of the assessment. RWSA does wish to provide the following general comments on the proposed expansion of facilities represented in Alternatives A and B:	Comment noted.
Rivanna Water & Sewer Authority	L.1-2	Water and Wastewater	1. RWSA will require a flow capacity certification if expansion of the facility will result in 40,000 gallons or more of additional wastewater production.	Comment noted.
Rivanna Water & Sewer Authority	L.1-3	Water and Wastewater	2. RWSA wishes to be provided an estimate of proposed additional water usage from the expansion in order to verify that sufficient capacity will be available once all improvements are implemented.	Comment noted. With the Proposed Action approximately 400 personnel would be relocated from leased office space to the new facilities within Rivanna Station. Based on an average consumption rate of 16 gallons per day (gpd) per worker, it is estimated that the relocation would result in an increase of 6,400 gpd of water usage at Rivanna Station.

Name/Agency	#	Category	Comment	Response
Rivanna Water & Sewer Authority	L.1-4	Water and Wastewater	3. The designer should note that there are future plans to lower the HGL in this area from the current pressure band (overflow at 805') to the "urban" pressure band (overflow at 652'). Design of the water and fire suppression system should take both existing and future conditions into account.	Comment noted.
County of Albemarle	L.2-1	FNSI	The County agrees with the finding of no significant environmental impact, especially with Alternative A and offers this additional information in the paragraphs below.	Comment noted.
County of Albemarle	L.2-2	Land Use	Albemarle County adopted an update to its Comprehensive Plan on June 10, 2015 of this year. Minimal changes to the Places29 Master Plan, of which this site is a part, took place but none in the area of Rivanna Station.	Comment noted.
County of Albemarle	L.2-3	Land Use	Alternative A is almost entirely in an area designated for Office/R&D/Flex/Light Industrial use. Rivanna Station's uses fit into this land use designation. A small portion of a Neighborhood Service Center is also included in the Land Use Plan (Piaces29 Master Plan) in the area indicated as Alternative A. On the Land Use Plan, this center's depiction is general in location and could occur north of the Alternative A area. The uses proposed for Rivanna Station Alternative A are consistent with the recommended uses in the Land Use Plan for the area. A difference exists between the square footage recommended in the Places29 Master Plan and the amount of square footage described in the project for the warehouse. The Places29 Plan recommends no more than 40,000 square feet for warehouses and the project proposal is for 60,000 square feet. Otherwise, it appears that the uses and design are in keeping with recommended land use.	Comment noted. The size of the proposed warehouse is conceptual and will be re-coordinated with the County when the project is being designed.

Name/Agency	#	Category	Comment	Response
County of Albemarle	L.2-4	Land Use	As indicated in the Environmental Assessment, Alternative B would expand the existing boundary to the southeast by 14 acres which is recommended for low density residential uses in the Land Use Plan. Because the proposed uses are offsite parking facilities and a warehouse use, such expansion would not be consistent with the Land Use Plan. If Alternative B were to be consistent with the Land Use Plan, a change in land use designation would be needed as noted in the Assessment. As with Alternative A, the recommended building footprint would be no greater than 40,000 square feet for warehouses. In addition, as the Assessment points out because an island of Neighborhood Density residential land would be located south of this 14 acres, access would need to be provided to that residential area.	Comment noted.
County of Albemarle	L.2-5	Zoning	Land in both Alternative A and Alternative B has the same zoning. A portion is zoned for Light Industrial and the remainder is zoned Rural Area. For both alternatives, a change in zoning of the Rural Area would be needed if the project is to be consistent with the County's zoning designations. The Environmental Assessment correctly notes the different zoning overlay districts which apply to this area. While it is unknown right now, new development in Alternative A or B may be visible from the Entrance Corridor (EC). It is preferred that any development which is visible be designed in accordance with EC guidelines. The Assessment indicates that with Alternative B, grading of preserved slopes might be needed. Grading on preserved slopes would not be consistent with the County's zoning regulations. Alternative A would be more in keeping with the zoning ordinance and not require grading on preserved slopes.	Comment noted. While Alternatives A and B would not be consistent with the County's zoning designations, both would be consistent with the County's Comprehensive Plan and the Places29 Master Plan. Further, with the Preferred Alternative, Alternative A, the projects would be constructed on land within Rivanna Station's existing boundaries which is already developed as offices and parking. Therefore, while Rivanna Station will not pursue a change in zoning, the impact would be minimal. As stated on page 3-7 of the EA – "Similar to the existing development, there would be limited visibility of the proposed development from Route 29. In addition, as with the existing development, the proposed development would be designed to blend into the natural environment and conserve natural terrain, plants and ecosystems where possible."

Name/Agency	#	Category	Comment	Response
County of Albemarle	L.2-6	Air Quality	An understanding of air quality requirements has been demonstrated with the Assessment. To help prevent vehicle emissions, carpooling, vanpooling, and bicycling to the site should be encouraged.	Comment noted.
County of Albemarle	L.2-7	Noise	Staff has reviewed the expected impacts on noise and agrees with the Assessment's findings.	Comment noted.
County of Albemarle	L.2-8	Grading and Water Resources	The Water Protection Ordinance (WPO), which requires stream buffers on all perennial streams, applies to the project area and to be in keeping with the WPO, these buffers need to be respected. It appears that Alternative A has the least impact on water resources. A complete understanding of the permitting process for land disturbance and water quality has been demonstrated.	Comment noted.
County of Albemarle	L.2-9	Biological Resources	Staff has reviewed the expected impacts on biological resources and agrees with the Assessment's findings.	Comment noted.
County of Albemarle	L.2-10	Historic Properties	Staff agrees with the Assessment's findings and the need to conform to state and federal requirements in relation to archeological and architecturally historic sites.	Comment noted.
County of Albemarle	L.2-11	Socioeconomics/ Economics	Staff agrees with the Assessment's findings on socioeconomic impacts. From an economic standpoint, we note that the EA outlines that the 14-acre parcel being considered by the Army for purchase and expansion of the Rivanna Station facilities would not be generating local tax revenues; however, if Army operations are relocated/consolidated from leased space into a new building under ownership of the U.S. Army, the leased space currently being occupied by Army operations (i.e. ULC#1) could be made fully available to private sector enterprises that could, in tum, become taxpaying entities generating business personal property and business license tax revenues.	Comment noted.

Name/Agency	#	Category	Comment	Response
County of Albemarle	L.2-12	Traffic and Transportation	With no increase in employees at the station, the County agrees with the Assessment's findings of little or no impact on existing traffic on Route 29. Carpooling, vanpooling, and bicycling can help reduce the number of car trips on Route 29. It should again be noted that if Alternative B is selected, access will be needed to the area of Neighborhood Density residential designated land south of the project site.	Comment noted. As stated in the EA on page 3-7 - "Alternative B would expand the existing Station boundary to the southeast to include a 14 acre site between the Rowe Building and Greens Pond. The 14 acre site is within the Piney Mountain Development Area boundary in the County's current draft Comprehensive Plan. The site has been identified as an area appropriate for Neighborhood Density Residential use and is zoned as a Rural Area." "As part of the scoping process, Albemarle County indicated that they have considered designating the 14 acre parcel area for Office/Research & Development (R&D)/Flex/Light Industrial use. However, the County indicated concern that an "island" of land designated as Low Density Residential would remain for which access would need to be provided. Given the County's concern regarding access and the requirement for a buffer along Greens Pond, the Station's boundary fence would be located 155 feet from the edge of Greens Pond. This would allow for a 55-foot wide road easement and a 100 foot buffer in accordance with the Albemarle County Code Chapter 17 Article VI Stream Buffers."
County of Albemarle	L.2-13	Utilities, Hazardous Materials and Waste, and Cumulative Impacts	Staff has reviewed the Assessment for these items and agrees with its findings.	Comment noted.
County of Albemarle	L.2-14	Visual and Aesthetic Resources	If properties are visible from the County's Entrance Corridor (EC}, use of the EC Guidelines will help ensure compatibility with the County's architectural and landscaping expectations for the entrances to the County's historic areas.	Comment noted. As stated on page 3-7 of the EA – "Similar to the existing development, there would be limited visibility of the proposed development from Route 29. In addition, as with the existing development, the proposed development would be designed to blend into the natural environment and conserve natural terrain, plants and ecosystems where possible."

Name/Agency	#	Category	Comment	Response
County of Albemarle	L.2-15	FNSI	In conclusion, the County agrees with the draft finding of No Significant Impact for either Alternative A or Alternative B. From an environmental standpoint and conformity with the County's Land Use Plan, preference is given to Alternative A. If Rivanna Station wishes to be in full conformity with the County's Plan and regulations changes to the Land Use Plan and Zoning would be needed for Alternative B. To be in conformity with the County's Land Use Plan and Zoning, Alternative A would just need to have the correct zoning designation on the parts of the property that are zoned RA Rural Area.	Comment noted.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

November 23, 2015

Mr. Felix M. Mariani
U.S. Army Garrison Fort Belvoir
Directorate of Public Works,
Environmental and Natural Resource Division
Building 1442, Suite 226
9430 Jackson Loop
Fort Belvoir, VA 22060-5116

Re: Rivanna Station Real Property Master Plan Environmental Assessment in Charlottesville, Virginia

Dear Mr. Mariani:

In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), the U.S. Environmental Protection Agency has reviewed the Environmental Assessment (EA) for the Rivanna Station Real Property Master Plan in Charlottesville, Virginia.

The purpose of the proposed action is the adoption of the Real Property Management Plan (RPMP) for Rivanna Station and implementation of the proposed near-term projects needed to accommodate the current and forecasted personnel and mission requirements of Rivanna Station. The need for the proposed action is to consolidate all personnel within the secure perimeter of Rivanna Station so as to reduce reliance on leased space, improve security, enhance the Anti-Terrorism Force Protection (ATFP) condition, and to provide better mission continuity and connectivity.

Two of the four action alternatives were evaluated in the EA; they are: Alternative A – On-Site Redevelopment (the Preferred Alternative) and Alternative B – Southeast Station Expansion in addition to the No Action Alternative. EPA agrees with the Army's assessment of Alternative A – On-Site Redevelopment, as the Preferred Alternative, since it would cause less damage to the biological and physical environment than Alternative B. However, EPA has questions regarding impacts to surface water, groundwater and wetlands that are addressed in the Technical Comments (enclosed). F.1-1

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Thank you for providing EPA with the opportunity to review this project. If you have questions regarding these questions/comments, the staff contact for this project is Karen DelGrosso; she can be reached at 215-814-2765.

Sincerely,

Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

Enclosure (1)

Technical Comments

Water Resources/Aquatic Resources

Page ES-4 and elsewhere in the EA states, "The Alternatives would not directly and only minimally affect the North Fork Rivanna River…" Please discuss the "minimal" impacts and/or indirect impacts that the proposed action would have on the North Fork Rivanna River and potential effects (if any) these impacts may have on the water quality/aquatic resources. As stated on page 3-22, "…the North Fork Rivanna River is impaired for recreation use due to violations of e-coli bacteria water quality standards." Please discuss potential impacts that may add to the already compromised 303(d) listed impaired water. F.1-2

Page 3-21 states, "The outfall for the large stormwater pond is a stream that flows from the northeast, and discharges to the North Fork Rivanna River." The stream is depicted in maps provided, but information on the condition, size, and quality was not provided. In addition, please discuss how the proposed actions (specifically, the proposed warehouse and parking structure) may impact the stream on-site. F.1-3

Page 3-65 states, "No wetlands would be impacted as it is presumed the development would be outside the 100 foot buffer in accordance with the Albemarle County Code Chapter 17 Article VI Stream Buffers." Although wetlands are not anticipated to be directly impacted, the total size of the wetlands in the study area should be provided, proximity to proposed actions specified, and indirect impacts discussed. F.1-4

Page 4-3 states, "Section 404 Wetland Permit – Based on previous survey data, it appears that neither Alternatives A nor B would directly affect Waters of the U.S. and therefore a Section 404 permit would not be required. However, the 2004 jurisdictional determination has expired. Therefore, prior to proceeding with final design, a new survey will be conducted to delineate Waters of the U.S. outside of the area surveyed in 2013." In anticipation of the new wetlands survey and final design, it is important to emphasize that impacts to wetland should be avoided or minimized whenever possible. F.1-5

Hazardous Materials and Waste

Page 3-56 states, "One petroleum release was reported at Rivanna Station and the case was closed in 2012." Since no specific information was provided, it is assumed that the petroleum release was cleaned up and petroleum was removed from soils/area, etc. Please discuss extent of release/resources impacted, if any. Where was the release in relation to the actions proposed? EPA is concerned with the location of release, its proximity to the actions proposed, and if there may be residual contaminates in soils, etc. that may need to be addressed prior to commencing work on proposed actions. F.1-6

Page 4-2 states, "Rivanna Station will design USTs to meet the technical requirements in 9VAC25-580 et seq., entitled Underground Storage Tanks: Technical Standards and Corrective Action Requirements and provide secondary containment." How many USTs will be added to F.1-7

the Rivanna Station and where will they be located? As page 3-20 states, "…approximately 44% of all homes in the County rely on well water or springs for household use, which includes some residents who use one of 17 public community water systems using wells and springs." Where are the areas of groundwater recharge in the vicinity of the actions proposed? Since there is a considerable number of households relying on groundwater for consumption, please show that the location of the USTs will in no way jeopardize the integrity of the groundwater. F.1-7 cont.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

October 30, 2015

Greetings:

Due to increased workload and refinement of our priorities in Virginia, this office will no longer provide individual responses to requests for environmental reviews. However, we want to ensure that U.S. Fish and Wildlife Service trust resources continue to be conserved. When that is not possible, we want to ensure that impacts to these important natural resources are minimized and appropriate permits are applied for and received. We have developed a website that provides the steps and information necessary to allow any individual or entity requiring review/approval of their project to complete a review and come to the appropriate conclusion. This site can be accessed at: *http://www.fws.gov/northeast/virginiafield/endangered/projectreviews.html*. F.2-1

The website is frequently updated to provide new species/trust resource information and methods to review projects. Refer to the website for each project review to ensure that current information and methods are utilized.

If you have any questions about project reviews or need assistance, please contact Troy Andersen of this office at (804) 824-2428 or troy_andersen@fws.gov.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Comment Report: All Comments
Project: Rivanna Station - EA and FONSI - Real Property Master Plan
Review: EA and Draft FONSI REport
Displaying 4 comments for the criteria specified in this report.

Id	Discipline	Section/Figure	Page Number	Line Number
6319629	General	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

The EA does an extremely thorough job of evaluating environmental impacts, and I concur that no EIS is needed. I didn't see any concerns. Also, I concur with the preferred alternative (A), which is redevelopment within the existing property. That does a good job of minimizing environmental impacts (which are truly minimal), while meeting the purpose and need of the project F.3-1

Submitted By: Katherine Perdue ((757) 201-7218). Submitted On: Dec 09 2015

Evaluation not conducted

6319634	Regulatory	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

As the EA indicates, no permit will be required from the Corps, and no DEQ Water Protection Permit will be required, since none of the project will impact waters/wetlands. However, a general construction permit, and a Virginia Stormwater permit will be required from DEQ; as well as a land disturbance permit from the locality. F.3-2

Submitted By: Katherine Perdue ((757) 201-7218). Submitted On: Dec 09 2015

Evaluation not conducted

6319636	Regulatory	n/a	Appendices regarding Endangered Species Act	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

I note that the IPAC species conclusion table in the Appendix, which was completed for USFWS on 7/25/15, indicates "may affect" for the James spinymussel and the Indiana and long-eared bats. "May affect" by itself, means that formal Section 7 consultation will be required, unless the USFWS then decides to reduce the determination to a "May affect, not likely to adversely affect". But, on the other hand, the EA also indicated that a bat survey will be done during the next survey window (May 15 through August 15), and the time-of-year restriction will be adhered to for all tree-clearing activities (April 15 through Sept 15), and that after the surveys, the applicant will also do further coordination with USFWS for bats, and with the USFWS and the National Marine Fisheries Service with regard to the James spinymussel. I concur with that approach; except that no coordination with National Marine Fisheries Service is needed for the mussel; NMFS only has F.3-3

jurisdiction over marine/tidal federally-listed species. Also, please note that presently, for any project that either does not find bats, or will adhere to the time of year restriction for tree clearing, the USFWS has indicated that the determination is "Not likely to adversely affect", not "May affect". Also with regard to the mussel, has the mussel survey been shared with USFWS? I did note that one James spinymussel was found several hundred feet downstream of the project. If not already done, I recommend that the applicant share the survey with USFWS now, to see if any further coordination is anticipated (I would not that think that the project would warrant a "may affect" and formal consultation for one individual located so far downstream, unless they feel that potential habitat exists all the way up near the project site). At any rate, as you may know, the IPAC determinations are only good for 90 days so this one will have to be redone anyway, when it gets closer to the construction time, because the USFWS has said that IPAC is regularly updated and new listings and finds are possible. But based on what I see herein, I think it is likely that the effect determination will be "not likely to adversely affect" and no formal consultation required. But again, once the bat surveys are done, and if any further mussel surveys are needed, then continue coordination with USFWS.

F.3-3 cont.

Submitted By: Katherine Perdue ((757) 201-7218). Submitted On: Dec 09 2015

Evaluation not conducted

6319652	Regulatory	n/a	Appendices regarding Endangered Species Act	n/a	Repeat of F.3-3

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**

I note that the IPAC species conclusion table in the Appendix, which was completed for USFWS on 7/25/15, indicates "may affect" for the James spinymussel and the Indiana and long-eared bats. "May affect" by itself, means that formal Section 7 consultation will be required, unless the USFWS then decides to reduce the determination to a "May affect, not likely to adversely affect". But, on the other hand, the EA also indicated that a bat survey will be done during the next survey window (May 15 through August 15), and the time-of-year restriction will be adhered to for all tree-clearing activities (April 15 through Sept 15), and that after the surveys, the applicant will also do further coordination with USFWS for bats, and with the USFWS and the National Marine Fisheries Service with regard to the James spinymussel. I concur with that approach; except that no coordination with National Marine Fisheries Service is needed for the mussel; NMFS only has jurisdiction over marine/tidal federally-listed species. Also, please note that presently, for any project that either does not find bats, or will adhere to the time of year restriction for tree clearing, the USFWS has indicated that the determination is "Not likely to adversely affect", not "May affect". Also with regard to the mussel, has the mussel survey been shared with USFWS? I did note that one James spinymussel was found several hundred feet downstream of the project. If not already done, I recommend that the applicant share the survey with USFWS now, to see if any further coordination is anticipated (I would not that think that the project would warrant a "may affect" and formal consultation for one individual located so far downstream, unless they feel that potential habitat exists all the way up near the project site). At any rate, as you may know, the IPAC determinations are only good for 90 days so this one will have to be redone anyway, when it gets closer to the construction time, because the USFWS has said that IPAC is regularly updated and new listings and finds are possible. But based on what I see herein, I think it is likely that the effect determination will be "not likely to adversely affect" and no formal consultation required.

But again, once the bat surveys are done, and if any further mussel surveys are needed, then continue coordination with USFWS.

Submitted By: Katherine Perdue ((757) 201-7218). Submitted On: Dec 09 2015

Evaluation not conducted

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COMMONWEALTH of VIRGINIA

Department of Historic Resources

Molly Joseph Ward
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

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20 November 2015

U.S. Army Garrison Fort Belvoir
Directorate of Public Works
Environmental and National Resources Division
Attention: FELIX M. MARIANI
Building 1442, 9430 Jackson Loop, Suite 226
Fort Belvoir, Virginia 22060-5116

Re: Environmental Assessment, Rivanna Station Real Property Master Plan
Charlottesville, Virginia
DHR File No. 2015-0781

Dear Mr. Mariani:

The Department of Historic Resources (DHR) has received for our review and comment a Environmental Assessment (EA) for the Real Property Master Plan at the Rivanna Station located at Charlottesville, Virginia. The EA includes a number of aspirational undertakings on the installation which may or may not occur based on funding availability and/or changing priorities. The individual projects included in the Master Plan have the potential to affect historic properties listed in or eligible for the National Register of Historic Places if such properties are present. Therefore, we request that the Army consult with DHR pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800 on each project separately when appropriate. S.1-1

If you have any questions about our comments, please contact me at (804) 482-6090.

Sincerely,

Marc Holma, Architectural Historian
Office of Review and Compliance

C: Alison Talbot, Army, CRM Fort Belvoir

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U.S. Army Garrison Fort Belvoir
Directorate of Public Works
Environmental and Natural Resource Division
Attention: Felix M. Mariani
Building 1442, 9430 Jackson Loop, Suite 226
Fort Belvoir, VA 22060-5116

RE: Department of Army, Fort Belvoir Environmental Assessment: Rivanna Station Real Property Master Plan, Albemarle County (DEQ 15-169F)

Dear Mr. Felix M. Mariani:

The Commonwealth of Virginia has completed its review of the Environmental Assessment (EA) for the above-referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. The following agencies participated in this review:

Department of Environmental Quality
Department of Game and Inland Fisheries
Department of Conservation and Recreation
Department of Health
Department of Transportation
Department of Forestry
Marine Resources Commission
Department of Aviation

The, Department of Agriculture and Consumer Services, Department of Historic Resources, Department of Mines, Minerals and Energy, Thomas Jefferson Planning District Commission, Albemarle County and the City of Charlottesville were also invited to comment on the project.

PROJECT DESCRIPTION

The Rivanna Station, located in Albemarle County, is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir in Virginia. The Rivanna Station has identified a range of projects needed to more adequately accommodate the existing mission and anticipated future potential organizational and mission changes and realignment. The EA for the development identifies the preferred alternative as Alternative A. The preferred alternative includes constructing the 10,000-square foot joint-use training facility, 60,000-square foot warehouse facility, and an emergency services center. In addition, the preferred alternative includes erecting a communication tower and support facilities as well as improving traffic access to the facility.

ENVIRONMENTAL IMPACTS AND MITIGATION

1. Wetlands and Water Quality. According to the EA (page 4-3), the project would not affect wetlands. However, the Army intends to conduct a new wetlands survey since the 2004 jurisdictional determination has expired.

1(a) Agency Jurisdiction. The State Water Control Board promulgates Virginia's water regulations covering a variety of permits to include the Virginia Pollutant Discharge Elimination System Permit regulating point source discharges to surface waters, Virginia Pollution Abatement Permit regulating sewage sludge, storage and land application of biosolids, industrial wastes (sludge and wastewater), municipal wastewater, and animal wastes, the Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit regulating impacts to streams, wetlands, and other surface waters. The VWP permit is a state permit which governs wetlands, surface water, and surface water withdrawals and impoundments. It also serves as §401 certification of the federal Clean Water Act §404 permits for dredge and fill activities in waters of the U.S. The VWP Permit Program is under the Office of Wetlands and Stream Protection, within the DEQ Division of Water Permitting. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities:

- Clean Water Act, §401;
- Section 404(b)(i) Guidelines Mitigation Memorandum of Agreement (2/90);
- State Water Control Law, Virginia Code section 62.1-44.15:20 et seq.; and
- State Water Control Regulations, 9VAC25-210-10.

1(b) Agency Findings. The DEQ Valley Regional Office (VRO) states that the disturbance of any surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers (Corps). The Corps is the final authority for an S.2-1

official confirmation of whether there are federal jurisdictional wetlands or other surface waters that may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. S.2-1 cont.

1(c) Agency Recommendations. DEQ VRO recommends the avoidance and minimization of surface water impacts to the maximum extent practicable. Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized by using Best Management Practices (BMPs). S.2-2

1(d) Requirement. A VWPP may be required. Contact DEQ VRO if construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands to determine the need for any permits prior to commencing work that could impact surface waters or wetlands. S.2-3

2. Air Quality. The EA (page 4-3) states that Rivanna Station will revise its existing permit to include stationary sources such as generators.

2(a) Agency Jurisdiction. The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that implement Virginia's Air Pollution Control Law (Virginia Code §10.1-1300 et seq.). DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate DEQ regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary sources in the region as well as monitoring emissions from these sources for compliance. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

The Air Division regulates emissions of air pollutants from industries and facilities and implements programs designed to ensure that Virginia meets national air quality standards. The most common regulations associated with major projects are:

- Open burning: 9VAC5-130 et seq.
- Fugitive dust control: 9VAC5-50-60 et seq.

- Permits for fuel-burning equipment: 9VAC5-80-1100 et seq.

2(b) Ozone Attainment Area. According to the DEQ Air Division, the project site is located in an ozone attainment area. S.3-1

2(c) Requirements.

2(c)(i) Fugitive Dust. During land-disturbing activities, fugitive dust must be kept to a minimum by using control methods outlined in 9VAC5-50-60 et seq. of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following:

- Use, where possible, water or suitable chemicals for dust control during the proposed demolition and construction operations and from material stockpiles;
- Install and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials;
- Cover open equipment for conveying materials; and
- Promptly remove spilled or tracked dirt or other materials from paved streets and dried sediments resulting from soil erosion.

S.3-2

Do not use water for dust control to the extent that it results in runoff to surface waters or wetlands.

2(c)(ii) Open Burning. If project activities include the burning of vegetative debris or use of special incineration devices in the disposal of land clearing debris, this activity must meet the requirements under 9VAC5-130 et seq. of the regulations for open burning, and it may require a permit. The regulations provide for, but do not require, the local adoption of a model ordinance concerning open burning. Contact officials with the appropriate locality to determine what local requirements, if any, exist. No open burning shall take place in violation of the Virginia Waste Management Regulations. Shredding/chipping of vegetative debris and reuse on-site is usually recommended over open burning. A copy of DEQ's open burning regulation and related information are accessible from www.deq.virginia.gov/Programs/Air/AirQualityPlans/OpenBurning.aspx. S.3-3

2(c)(iii) Permitting. Installation / operation / modification of stationary or portable fuel-burning equipment (e.g., generators, wood chippers/grinders, boilers, etc.) or other sources of air pollutants may be subject to registration and/or air permitting requirements. S.3-4

3. Erosion and Sediment Control and Stormwater Management. According to the EA (page 4-3), the project will follow appropriate erosion and sediment controls and stormwater management requirements.

3(a) Agency Jurisdiction. The DEQ Office of Stormwater Management administers the following laws and regulations governing construction activities:

- Virginia Erosion and Sediment Control (ECS) Law (§ 62.1-44.15:51 et seq.) and Regulations (9VAC25-840);
- Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq.);
- Virginia Stormwater Management Program (VSMP) regulation (9VAC25-870); and
- 2014 General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (9VAC25-880).

In addition, DEQ is responsible for the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to Municipal Separate Storm Sewer Systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program (9VAC25-890-40).

3(b) Requirements. DEQ OSM did not respond to DEQ's request for comments. However, based on responses to similar projects, regulatory guidance for the control of nonpoint source pollution is presented below. S.4-1

3(b)(i) Erosion and Sediment Control and Stormwater Management Plans. The applicant and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with VESCL&R and VSWML&R, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 10,000 square feet would be regulated by VESCL&R. Accordingly, the applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to the DEQ regional office that serves the area where the project is located for review for compliance. The applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy (Reference: VESCL 62.1-44.15 et seq.). S.4-2

3(b)(ii) General Permit for Stormwater Discharges from Construction Activities (VAR10). The operator or owner of a construction project involving land-disturbing activities equal to or greater than one acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the S.4-3

general permit and the SWPPP must address water quality and quantity in accordance with the VSMP Permit Regulations. General information and registration forms for the General Permit are available on DEQ's website at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx (Reference: VSWML 62.1-44.15 et seq.; VSMP Permit Regulations 9VAC 25-870-10 et seq.). S.4-3 cont.

4. Solid and Hazardous Waste Management. The EA (page 4-2) indicates that waste will be managed appropriately.

4(a) Agency Jurisdiction. On behalf of the Virginia Waste Management Board, the DEQ Division of Land Protection and Revitalization is responsible for carrying out the mandates of the Virginia Waste Management Act (Virginia Code §10.1-1400 et seq.), as well as meeting Virginia's federal obligations under the Resource Conservation and Recovery Act and the Comprehensive Environmental Response Compensation Liability Act , commonly known as Superfund. The DEQ Division of Land Protection and Revitalization also administers those laws and regulations on behalf of the State Water Control Board governing Petroleum Storage Tanks (Virginia Code §62.1-44.34:8 et seq.), including Aboveground Storage Tanks (9VAC25-91 et seq.) and Underground Storage Tanks (9VAC25-580 et seq. and 9VAC25-580-370 et seq.), also known as Virginia Tank Regulations, and § 62.1-44.34:14 et seq. which covers oil spills.

Virginia:

- Virginia Waste Management Act, Virginia Code § 10.1-1400 et seq.
- Virginia Solid Waste Management Regulations, 9VAC20-81
  - (9VAC20-81-620 applies to asbestos-containing materials)
- Virginia Hazardous Waste Management Regulations, 9VAC20-60
  - (9VAC20-60-261 applies to lead-based paints)
- Virginia Regulations for the Transportation of Hazardous Materials, 9VAC20-110.

Federal:

- Resource Conservation and Recovery Act (RCRA), 42 U.S. Code sections 6901 et seq.
- U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 Code of Federal Regulations, Part 107
- Applicable rules contained in Title 40, Code of Federal Regulations.

4(b) Database Search. DEQ's Division of Land Protection and Revitalization (DLPR) identified one petroleum release near the project area: ID# 20136037 – Joint Use Intelligence Analysis Facility, 2460 Defense Way, Charlottesville, VA 22911. Event Date: 12-28-2012. Status: Closed. S.5-1

4(c) Requirements.

- Any soil that is suspected of contamination or wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations.
- All structures being demolished or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM and LBP are found, in addition to the federal waste-related regulations mentioned above, state regulations 9VAC20-81-640 for ACM and 9VAC20-60-261 for LBP must be followed.

S.5-2

4(d) Agency Recommendations.

- Evaluate the identified petroleum release to determine if the project will impact or be impacted by the project.
- DEQ encourages all projects to implement pollution prevention principles, including:
  - the reduction, reuse and recycling of all solid wastes generated; and
  - the minimization and proper handling of generated hazardous wastes.

S.5-3

5. Natural Heritage Resources. The EA (page 4-2) states that the facility will conduct a survey for birds and active nests prior to construction.

5(a) Agency Jurisdiction.

5(a)(i) The Virginia Department of Conservation and Recreation's (DCR) Division of Natural Heritage (DNH): DNH's mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act (Virginia Code §10.1-209 through 217), authorized DCR to maintain a statewide database for conservation planning and project review, protect land for the conservation of biodiversity, and to protect and ecologically manage the natural heritage resources of Virginia (the habitats of rare, threatened and endangered species, significant natural communities, geologic sites, and other natural features).

5(a)(ii) The Virginia Department of Agriculture and Consumer Services (VDACS): The Endangered Plant and Insect Species Act of 1979 (Virginia Code Chapter 39 §3.1-1020 through 1030) authorizes VDACS to conserve, protect and manage endangered and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

5(b) Agency Findings – Natural Heritage Resources. According to the information currently in DCR DNH's files, the North Fork Rivanna River – Swift Creek Stream Conservation Unit (SCU) intersects and is immediately adjacent to the project site. The natural heritage resource associated with this site is the James spinymussel (Pleurobema collina, G1/S1/LE/LE). This species is currently classified as endangered by the US Fish and Wildlife Service (FWS) and the Department of Game and Inland Fisheries (DGIF).

The Atlantic pigtoe (Fusconaia masoni, G2/S2/SOC/LT) has historically been documented in the North Fork Rivanna River. This species is currently listed as threatened by DGIF. It is also tracked as a species of concern by the FWS; however, this designation has no official legal status. S.6-1

The North Fork Rivanna River has been designated by DGIF as a Threatened and Endangered Species Water for the James spinymussel and Atlantic Pigtoe.

According to the EA, there is potential for the Northern Long-eared bat (Myotis septentrionalis, G1G3/S3/LT/NL) and the Indiana bat (Myotis sodalis, G2/S1/LE/LE) to occur within the project area. Indiana bats are currently classified as endangered by the FWS and the DGIF.

Additional information about the above-referenced species is attached.

5(c) Agency Findings – Threatened and Endangered Plant and Insect Species. DCR states that the current activity will not affect any documented state-listed plant and insect species. S.6-2

5(d) Agency Findings – Natural Area Preserves. There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity. S.6-3

5(e) Agency Recommendations.

- Contact DCR DNH to re-submit project information and a map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.
- Due to the documentation of the James spinymussel in the North Fork Rivanna River during a 2013 survey and the time that has passed since the mussel survey was conducted, conduct an inventory for these resources in the study area. If the James spinymussel or other rare mussels are found during the survey, DCR recommends relocation to another site with suitable habitat.
- Submit survey results to DCR DNH from the bird survey mentioned on page 3 of the EA.

S.6-4

- Implement and strictly adhere to applicable state and local erosion and sediment control/storm water management laws and regulations to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities.
- Due to the legal status of the James spinymussel, coordinate with the FWS.
- DCR recommends coordination with the FWS regarding potential impacts upon Northern Long-eared bats and the Indiana bat associated with tree removal. Upon completion, DCR requests a copy of the Northern Long-eared bat survey.

S.6-4 cont.

6. Wildlife Resources. The EA (page 3-36) states that the implementation of the project would not destroy critical habitat or threaten the existence of listed species.

6(a) Wildlife Resources. The Virginia Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state- or federally-listed endangered or threatened species, but excluding listed insects (Virginia Code, Title 29.1). DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S.Code §661 et seq.) and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce or compensate for those impacts. For more information, see the DGIF website at www.dgif.virginia.gov.

6(b) Agency Finding. The North Fork Rivanna River, immediately adjacent to this property, has been designated a Threatened and Endangered Species Water due to the presence of federally listed endangered James spinymussels and state-listed threatened Atlantic pigtoes. In addition, this segment of the North Fork Rivanna has been designated a Potential Anadromous Fish Use Area. It does not appear that impacts upon North Fork Rivanna River or any of its tributaries are proposed under any of the alternatives. In that case, DGIF does not anticipate any of the alternatives to result in adverse impacts upon this resource and the species it supports to result from the proposed work.

S.7-1

6(c) Agency Recommendations.

- If work in North Fork River or any of its tributaries is planned, coordinate with DGIF and FWS.
- To best protect listed mussels known from nearby waters, DGIF recommends the following:
    - Maintain undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. Maintain undisturbed naturally vegetated buffers of at least 200 feet in width on all perennial tributaries to North Fork Rivanna

S.7-2

River. Maintain undisturbed naturally vegetated buffers of at least 300 ft on both sides of North Fork Rivanna River.
    - Design stormwater controls to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.
- Coordinate with the FWS regarding potential impacts upon federally listed threatened northern long-eared bats associated with tree removal, if such is proposed.
- To minimize overall impacts to wildlife and our natural resources, DGIF offers the following comments about development activities:
    - Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable.
    - Adhere to a time-of-year restriction from March 15 through August 15 of any year for all tree removal and ground clearing to protect nesting resident and migratory songbirds.
    - Adhere to erosion and sediment controls during ground disturbance.

S.7-2 cont.

7. Planning and Recreational Resources. The EA (page 3-52) states that the preferred alternative would provide a recreational trail for employee use.

7(a) Planning and Recreational Resources. DCR's Division of Planning and Recreational Resources (DPRR) administers the Virginia Scenic Rivers (Virginia Code § 10.1-200), Virginia Byways (Virginia Code §33.2-405 through 33.2-408), and state trails programs (Virginia Code §10.1-204) and is responsible for developing the Virginia Outdoors Plan (VOP), the state's comprehensive outdoor recreation and open space plan (Virginia Code §10.1-200). The VOP recognizes the importance of scenery to Virginians and many of the top ten activities are water based.

7(b) Agency Finding. The Rivanna River is a designated Scenic River; however, due to the projects distance from the resource, DCR DPRR does not anticipate any impacts to this scenic resource. S.8-1

8. Forest Resources. The EA (page 3-35) states that several of the proposed projects would necessitate tree clearing.

8(a) Agency Jurisdiction. The Virginia Department of Forestry (DOF) reviews applications to ensure that the forest resources of the Commonwealth are managed in a

sustainable manner to meet the economic, ecological, and social needs of Virginia in perpetuity. DOF is charged with protecting and developing healthy, sustainable forest resources that maintain functioning forest ecosystem and improve forest health, sustaining the supply of raw materials necessary for the economic growth of Virginia's timber industry, and supporting the protection of water quality and sources of water supply within Virginia's watersheds (Virginia Code, §10.1-1101, 10.1-1105, and 10.1-1106).

8(b) Agency Finding. Based on the materials provided, DOF concurs with the option A, the preferred option proposed. Under option A, only 1.4 acres of trees out of a total of 230 acres of deciduous forest would be removed and that would be within already highly fragmented and developed areas. S.9-1

9. Water Supply. The proposed alternative would include improvements to the water distribution system according to the EA (page 2-6).

9(a) Agency Jurisdiction. The Virginia Department of Health (VDH) Office of Drinking Water reviews projects for the potential to impact public drinking water sources (groundwater wells, springs and surface water intakes). VDH administers both federal and state laws governing waterworks operation.

9(b) Agency Findings. VDH ODW states that there may be impacts to public drinking water sources due to this project if the mitigation efforts outlined below are not implemented.

It appears that the following public groundwater wells are located within a 1,000-foot radius of the project site:

PWSID	District	CNYCTY	SYSNAME	FACNAME
2003206	DISTRICT 10	ALBEMARLE	CHRIS GREENE LAKE	WELL 1 (PARK SIDE)
2003206	DISTRICT 10	ALBEMARLE	CHRIS GREENE LAKE	WELL 2 (LAKE SIDE)

S.10-1

The following surface water intakes are located within a 5-mile radius of the project site:

PWSID	SYSNAME	FACNAME
2003525	NORTH RIVANNA WTP	NORTH FORK RIVANNA RIVER
2003725	SOUTH RIVANNA WTP	SOUTH FORK RIVANNA RIVER

The project falls within 5 miles into the watersheds of the following public surface water sources:

PWSID	SYSNAME	FACNAME

2003525	NORTH RIVANNA WTP	NORTH FORK RIVANNA RIVER
2003725	SOUTH RIVANNA WTP	SOUTH FORK RIVANNA RESERVOIR

9(c) Agency Recommendations.

- Implement best management practices, including erosion and sedimentation controls as well as spill prevention controls and countermeasures, should be employed on the project site.
- Field mark and protect well(s) within a 1,000-foot radius of the project site from accidental damage due to construction activities.
- Take care while transporting materials in and out of the project site, as to prevent impacts to surface water intakes within 5 miles.

S.10-2

9(d) Requirements. Potential impacts to public water distribution systems or sanitary sewage collection systems must be verified by the local utility.

S.10-3

9(e) Water Conservation Recommendations. DEQ recommends that the responsible party considers the following water conservation measures to the extent practicable:

- Grounds should be landscaped with hardy native plant species to conserve water as well as minimize the need to use fertilizers and pesticides.
- Convert turf to low water-use landscaping such as drought resistant grass, plants, shrubs and trees.
- Consider installing low-flow restrictors/aerators to faucets.
- Improve irrigation practices by:
  - upgrading with a sprinkler clock; watering at night, if possible, to reduce evapotranspiration (lawns need only 1 inch of water per week and do not need to be watered daily; over watering causes 85 percent of turf problems);
  - installing a rain shutoff device; and
  - collecting rainwater with a rain bucket or cistern system with drip lines.
- Check for and repair leaks during routine maintenance activities.
- Consider replacement of old equipment with new high-efficiency machines to reduce water usage by 30-50 percent per use.

S.10-4

10. Transportation Impacts. The EA (page 3-47) that a new access road will be constructed.

10(a) Agency Jurisdiction. The Virginia Department of Transportation provides comments pertaining to potential impacts to existing and future transportation systems.

10(b) Agency Findings. The VDOT Culpeper District has the following findings:

S.11-1

- The EA does not indicate that the improvements would increase the number of personnel at the facility or the traffic to/from the station.
- The study states that the project "would have little to no impact on the existing traffic on Route 29 or at the signal at the intersection of Route 29 and Boulder Road". The current roadways internal to the site are privately maintained or internal to the Station. The project is planned to consolidate the operations to further internalize the facility and reduce the need for external trips form the station. This project should reduce the traffic impacts from the development on the private roadways and should result of no additional impact to the public roadways. S.11-1 cont.
- During construction there may be temporary increases in traffic to and from the site and some changes in traffic patterns internal to the development.

10(c) Agency Recommendation. Consider the impacts of the construction to traffic patterns within the facility as the project is designed to minimize the impacts. S.11-2

11. Aviation. The EA (page 3-5) states that the Rivanna Station is within the airport impact area zone.

11(a) Agency Jurisdiction. The Virginia Department of Aviation (DOAV) is a state agency that plans for the development of the state aviation system; promotes aviation; grants aircraft and airports licenses; and provides financial and technical assistance to cities, towns, counties and other governmental subdivisions for the planning, development, construction and operation of airports, and other aviation facilities.

11(b) Agency Finding. The DOAV states that the Rivanna Station is less than 2.5 miles from the Charlottesville-Albemarle Airport. S.12-1

11(c) Agency Recommendations.

- Submit Form 7460 to the FAA to ensure that the proposed facility modifications and new facilities, especially the communication tower, would not create a hazard to air navigation for the airport and that Part 77 safety areas are not penetrated. S.12-2
- Coordination should take place with the airport to insure continuing operations at the airport in accordance with its master plan and compatibility between uses.

11(d) Requirements.

- The design of the proposed facility modifications and new facilities, especially the communication tower, must prevent interference with pilots' safe ingress and egress at the airport, both in its present configuration and with planned S.12-3

improvements. In addition to the height restrictions mentioned in the EA, the design, including exterior lighting, needs to prevent glare and related concerns from interfering with activity at the airport.

- Operational activities at the project site should not pose a hazard or impediment to pilots using the airport, especially the approaches for Runway 21. Such hazards or impediments include interference with navigation and communication equipment, interference with existing and planned approach procedures for all aircraft published for or by the airport, generation of glare from building materials and external lights, and attraction of wildlife. S.12-3 cont.
- Construction activity in the vicinity of an airport, especially involving heavy equipment, must be in compliance with FAA Advisory Circular 150/5370-2E Operational Safety on Airports During Construction.

12. Subaqueous Land Impacts and Tidal Wetlands. The EA does not address subaqueous lands.

12(a) Agency Jurisdiction. The Virginia Marine Resources Commission (VMRC) regulates encroachments in, on or over state-owned subaqueous beds as well as tidal wetlands pursuant to Virginia Code §28.2-1200 through 1400. For nontidal waterways, VMRC states that it has been the policy of the Habitat Management Division to exert jurisdiction only over the beds of perennial streams where the upstream drainage area is 5 square miles or greater. The beds of such waterways are considered public below the ordinary high water line.

12(b) Agency Finding. If any portion of the subject project involves any encroachments channelward of ordinary high water along natural rivers and streams above the fall line or mean low water below the fall line, a permit may be required from VMRC. Any jurisdictional impacts will be reviewed by VMRC during the Joint Permit Application (JPA) process. S.13-1

12(c) Agency Recommendation. Coordinate with VMRC as necessary regarding the submission of a JPA. S.13-2

13. Pollution Prevention. DEQ advocates that principles of pollution prevention be used in all projects. Effective siting, planning and on-site best management practices will help to ensure that environmental impacts are minimized. However, pollution prevention techniques also include decisions related to construction materials, design and operational procedures that will facilitate the reduction of wastes at the source.

13(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction and operation of the facility: S.14-1

- Consider development of an effective Environmental Management System

(EMS). An effective EMS will ensure that the proposed facility is committed to minimizing its environmental impacts, setting environmental goals and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program.

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level and amount of packaging should be considered and can be specified in purchasing contracts. S.14-1 cont.
- Consider contractors' commitment to the environment when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for infrastructure and building construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.

The DEQ Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques. If interested, please contact DEQ (Meghann Quinn at 804-698-4021).

14. Pesticides and Herbicides. In general, when pesticides or herbicides must be used, their use should be strictly in accordance with manufacturers' recommendations. In addition, to the extent feasible, DEQ recommends that the responsible agent for the project use the least toxic pesticides or herbicides effective in controlling the target species. For more information on pesticide or herbicide use, please contact the Virginia Department of Agriculture and Consumer Services at (804) 786-3501. S.15-1

15. Energy Conservation. Architectural and engineering designers should consider incorporating the energy, environmental, and sustainability concepts listed in the **Leadership in Energy and Environmental Design (LEED)** Green Building Rating System into the development and procurement of their projects. S.16-1

15(a) Agency Recommendations. The energy efficiency of facilities can be enhanced by maximizing the use of the following:

- thermally efficient building shell components (roof, wall, floor, windows and insulation);
- facility siting and orientation with consideration towards natural lighting and solar loads;
- high-efficiency heating, ventilation, air conditioning systems;
- high-efficiency lighting systems and daylighting techniques; and
- energy-efficient office and data processing equipment.

S.16-2

Please contact Department of Mines, Minerals and Energy (David Spears at 434-951-6350) for additional information on energy conservation measures. For more information on the LEED rating system, visit *www.leedbuilding.org.*

REGULATORY AND COORDINATION NEEDS

1. Water Quality and Wetlands. DEQ regulates impacts to waters and wetlands pursuant to 9VAC25-210 et seq. Contact DEQ VRO (Eirc Millard at Eric.Millard@deq.virginia.gov) to ensure compliance with the Virginia Water Protection Program (VWPP).

2. Subaqueous Lands Impacts. Pursuant to section 28.2-1204 of the Code of Virginia, the VMRC has jurisdiction over any encroachments in, on or over any state-owned rivers, streams or creeks in the Commonwealth. Contact VMRC (Randy Owen at Randy.Owen@mrc.virginia.gov) regarding the submittal of a JPA.

3. Erosion and Sediment Control and Stormwater Management. This project must comply with Virginia's Erosion and Sediment Control Law (Virginia Code § 62.1-44.15:61) and Regulations (9 VAC 25-840-30 et seq.) and Stormwater Management Law (Virginia Code § 62.1-44.15:31) and Regulations (9 VAC 25-870-210 et seq.) as administered by DEQ. Erosion and sediment control, and stormwater management requirements should be coordinated with the DEQ VRO (Gary Flory at Gary.Flory@deq.virginia.gov).

4. General Permit for Stormwater Discharges from Construction Activities (VAR10). The operator or owner of a construction activity involving land disturbance of equal to or greater than 1 acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project specific stormwater pollution prevention plan (SWPPP). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ (Holly Sepety at 804-698-4039) (Reference: VSWML §62.1-44.15 et seq.).

5. Air Quality Regulations.

- Contact officials with the appropriate locality for information on any local requirements pertaining to open burning.
- Contact DEQ VRO (Janardan Pandey at Janardan.Pandey@deq.virginia.gov or 540-574-7817) for additional information on air regulations if necessary.

6. Natural Heritage Resources.

- Contact the DCR DNH (804-371-2708) to re-submit project information and a map for an update on natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.
- Contact DCR DNH (Rene Hypes at Rene.Hypes@dcr.virginia.gov) regarding DCR's request for surveys and additional coordination.
- Coordinate with FWS (804-693-6694) due to the legal status of protected species in the project area.

7. Wildlife Management.

- Coordinate with DGIF (Amy Ewing at Amy.Ewing@dgif.virginia.gov) and FWS (804-693-6694) if work in North Fork River or any of its tributaries is planned.

8. Waterworks. Contact VDH ODW (Roy Soto at Roy.Soto@vdh.virginia.gov) for additional information about its comments and recommendations.

9. Aviation Impacts. Coordinate with the Charlottesville-Albemarle Airport (Melinda Crawford at 434-973-8342) to ensure continuing operations at the airport. Submit Form 7460 to the FAA (703-661-1354) to ensure that the project would not create a hazard to air navigation.

Thank you for the opportunity to comment on this EA. The detailed comments of reviewers are attached. If you have questions, please do not hesitate to call me at (804) 698-4204 or Julia Wellman at (804) 698-4326.

Sincerely,

Bettina Sullivan, Manager
Environmental Impact Review and Long Range Priorities Program

Enclosures

ec:

Amy Ewing, DGIF
Keith Tignor, VDACS
Robbie Rhur, DCR
Roy Soto, VDH
Roger Kirchen, DHR
David Spears, DMME
Greg Evans, DOF
Randy Owen, VMRC
James Crawford, VDOT

Tom Foley, Albemarle County
Stephen Williams, Thomas Jefferson PDC
Susan Simmers, DOAV
Felix Mariani, Army
Maurice Jones, City of Charlottesville

Wellman, Julia (DEQ)

From: Ewing, Amy (DGIF)
Sent: Tuesday, November 17, 2015 4:41 PM
To: Wellman, Julia (DEQ)
Subject: ESSLog# 36237_15-169F_Rivanna Station real Property Master Plan

North Fork Rivanna River, immediately adjacent to this property, has been designated a Threatened and Endangered Species Water due to the presence of federally Endangered James spinymussels and state Threatened Atlantic pigtoes. In addition, this segment of the North Fork Rivanna has been designated a Potential Anadromous Fish Use Area. It does not appear impacts upon North Fork Rivanna River or any of its tributaries is proposed under any of the alternatives. In that case, we do not anticipate any of the alternatives to result in adverse impacts upon this resource and the species it supports to result from the proposed work. If work in North Fork River or any of its tributaries is planned, we recommend additional coordination with us and the USFWS.

We recommend the following to best protect listed mussels known from nearby waters:

We recommend maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining undisturbed naturally vegetated buffers of at least 200 feet in width on all perennial tributaries to North Fork Rivanna River. We recommend maintaining undisturbed naturally vegetated buffers of at least 300 ft on both sides of North Fork Rivanna River.

We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

We recommend coordination with the USFWS regarding potential impacts upon federally Threatened northern long-eared bats associated with tree removal, if such is proposed.

To minimize overall impacts to wildlife and our natural resources, we offer the following comments about development activities: We recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable.

We recommend that all tree removal and ground clearing adhere to a time of year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

We recommend adherence to erosion and sediment controls during ground disturbance.

Thanks, Amy

Amy Ewing
Environmental Services Biologist/FWIS Manager
VA Dept. of Game and Inland Fisheries
7870 Villa Park Dr., Henrico, VA 23228
804-367-2211 www.dgif.virginia.gov

Please consider the environment before printing this email.

From: Wellman, Julia (DEQ)
Sent: Tuesday, November 17, 2015 2:51 PM
To: Rhur, Robbie (DCR); Ewing, Amy (DGIF)

Subject: FW: NEW PROJECT ARMY 15-169F
Importance: High

If you think you'll have comments, please let me know and I will wait until Thursday for the internal review. If not, I'll wrap it up today. Thanks.

From: Wellman, Julia (DEQ)
Sent: Monday, November 16, 2015 3:56 PM
To: dgif-ESS Projects (DGIF); Tignor, Keith (VDACS); Rhur, Robbie (DCR); odwreview (VDH); Narasimhan, Kotur (DEQ); Gavan, Larry (DEQ); Sepety, Holly (DEQ); Carawan, Daniel (DEQ); Fowler, Keith (DEQ); Kirchen, Roger (DHR); Spears, David (DMME); Evans, Gregory (DOF); Watkinson, Tony (MRC); Ray, Alfred C. (VDOT); Cromwell, James R. (VDOT); cboyles@tjpdc.org; Foley, Thomas; creasym@charlottesville.org; Simmers, Susan H. (DOAV)
Subject: RE: NEW PROJECT ARMY 15-169F

If you have not already commented, please note that comments are due today. Thank you.

Julia Wellman
Environmental Impact Review Coordinator
Department of Environmental Quality
629 E Main Street
Richmond, VA 23219
(804) 698-4326
Julia.Wellman@deq.virginia.gov
www.deq.virginia.gov

**** For program updates and public notices, please subscribe to the OEIR News Feed.****

From: Fulcher, Valerie (DEQ)
Sent: Tuesday, October 27, 2015 3:17 PM
To: dgif-ESS Projects (DGIF); Tignor, Keith (VDACS); Rhur, Robbie (DCR); odwreview (VDH); Coe, Stephen (DEQ); Narasimhan, Kotur (DEQ); Gavan, Larry (DEQ); Sepety, Holly (DEQ); Carawan, Daniel (DEQ); Fowler, Keith (DEQ); Kirchen, Roger (DHR); Spears, David (DMME); Evans, Gregory (DOF); Watkinson, Tony (MRC); Ray, Alfred C. (VDOT); Cromwell, James R. (VDOT); cboyles@tjpdc.org; Foley, Thomas; creasym@charlottesville.org; Simmers, Susan H. (DOAV)
Cc: Wellman, Julia (DEQ)
Subject: NEW PROJECT ARMY 15-169F

Good afternoon - attached is a new EIR review request/ project:

Army: Rivanna Station Real Property Master Plan
Albemarle County/City of Charlottesville
DEQ #15-169F

The document is available at www.deq.virginia.gov/fileshare/oeir in the ARMY folder.

The due date for comments is NOVEMBER 16, 2015. You can send your comments either directly to Julia by email (Julia.Wellman@deq.virginia.gov), or you can send your comments by regular interagency/U.S. mail

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Joe Elton
Deputy Director of Operations

Rochelle Altholz
Deputy Director of Administration and Finance

David Dowling
Deputy Director of Soil and Water and Dam Safety

MEMORANDUM

DATE: November 17, 2015

TO: Julia Wellman, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 15-169F, Rivanna Station Real Property Master Plan

Division of Planning and Recreation Resources

The Department of Conservation and Recreation (DCR), Division of Planning and Recreational Resources (PRR), develops the *Virginia Outdoors Plan* and coordinates a broad range of recreational and environmental programs throughout Virginia. These include the Virginia Scenic Rivers program; Trails, Greenways, and Blueways; Virginia State Park Master Planning and State Park Design and Construction.

Please note, the Rivanna River is a designate Scenic River; however, due to the projects distance from the resource, we do not anticipate any impacts to this scenic resource.

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the North Fork Rivanna River – Swift Creek Stream Conservation Unit (SCU) intersects and is immediately adjacent to the project site. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The North Fork Rivanna River – Swift Creek SCU has been given a biodiversity ranking of B2, which represents a site of very high significance. The natural heritage resource associated with this site is:

Pleurobema collina	James spinymussel	G1/S1/LE/LE

The James spinymussel is a freshwater mussel endemic to Virginia and is known from the James and Roanoke River watersheds. It occurs in a variety of substrata, ranging from sand and silt mixtures to gravel and sand mixed with rubble, and in a variety of flow regimes (Clarke & Neves, 1984; Hove & Neves, 1994). It is now restricted to small headwater streams of this watershed (Neves, 1991).

Threats to the James spinymussel include competition with the exotic clam (*Corbicula fluminea*), erosion and sedimentation from logging, road construction, and livestock grazing, sewage effluent, and water quality degradation (Neves, 1991). Please note that this species is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF).

In addition, the Atlantic pigtoe (*Fusconaia masoni*, G2/S2/SOC/LT) has historically been documented in the North Fork Rivanna River. The Atlantic pigtoe is a medium-sized freshwater mussel which ranges from the Ogeeshee drainage in Georgia north to Virginia (NatureServe, 2009). In Virginia, this species is known from the James, Chowan and Roanoke River basins (NatureServe, 2009). The Atlantic pigtoe prefers clear, swift waters with gravel or sand and gravel substrates. Many populations from the main stem of larger rivers have disappeared and the species is becoming limited to the headwater areas of drainages in which it occurs. This could have implications for populations being able to reestablish after a localized, catastrophic event and for genetic exchange.

Threats to the Atlantic pigtoe include pollution, impoundments, clearcutting, and dredging (Gerberich, 1991). This species does not appear to be able to tolerate habitat changes and it appears to be very poor at recolonizing previously disturbed habitats (NatureServe, 2009). A recent study determined that the glochidia of the Atlantic pigtoe are extremely sensitive to pollution (Augspurger et al., 2003). Please note that this species is currently listed as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF) and is also tracked as a species of concern by the United States Fish and Wildlife Service (USFWS); however, this designation has no official legal status.

The North Fork Rivanna River has been designated by VDGIF as a "Threatened and Endangered Species Water for the James spinymussel and Atlantic Pigtoe.

Due to the documentation of the James spinymussel in the North Fork Rivanna River during a 2013 survey and the time that has passed since the mussel survey was conducted, DCR recommends an inventory for these resources in the study area. If the James spinymussel or other rare mussels are found during the survey, DCR recommends relocation to another site with suitable habitat. DCR also requests the survey results from the bird survey mentioned on page 3 of the Environmental Assessment (EA).

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the James spinymussel DCR also recommends coordination with the USFWS and VDGIF and for the Atlantic pigtoe coordination with VDGIF to ensure compliance with protected species legislation.

According to the EA, there is potential for the Northern Long-eared bat (*Myotis septentrionalis*, G1G3/S3/LT/NL) and the Indiana bat (*Myotis sodalis*, G2/S1/LE/LE) to occur within the project area. The Northern Long-eared bat is a small insect-eating bat characterized by its long-rounded ears that when folded forward extend beyond the tip of the nose. Hibernation occurs in caves, mines and tunnels from late fall through early spring and bats occupy summer roosts comprised of older trees including single and multiple tree-fall gaps, standing snags and woody debris. Threats include white nose syndrome and loss of hibernacula, maternity roosts and foraging habitat (NatureServe, 2014). Due to the decline in population numbers, the Northern Long-eared bat has been federally listed as "threatened" by the USFWS.

The Indiana bat ranges from the western Ozarks north and east to Michigan and New England, and south to Alabama and Arkansas (NatureServe, 2009). In Virginia, there are records in mountainous regions of the western part of the state. Male and female Indiana bats congregate in the fall to hibernate in caves and mine tunnels in dense clusters. While many males continue to use these underground roosts in the summer, females form maternity colonies under the loose bark of trees such as shagbark hickory, oaks and maples.

These bats emerge in the evenings to feed on moths, flies and other insects over tree-lined streams and upland woods.

Indiana bats are sensitive to flooding, pesticide poisoning, and disturbance by human beings, such as vandalism, spelunkers, cave commercialization, and research (Dalton & Handley, 1991; Harvey, 1992). Please note that this species is currently classified as endangered by the USFWS and the VDGIF.

DCR recommends coordination with the USFWS regarding potential impacts upon Northern Long-eared bats and with the USFWS and the VDGIF regarding potential impacts upon the Indiana bat associated with tree removal. Upon completion, DCR requests a copy of the Northern Long-eared bat survey for our files.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The VDGIF maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov.

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

CC: Troy Anderson, USFWS
Ernie Aschenbach, VDGIF

Literature Cited

Augspurger, T., A.E. Keller, M.C. Black, W.G. Cope, and F.J. Dwyer. 2003. Water quality guidance for protection of freshwater mussels (Unionidae) from ammonia exposure. Environmental Toxicology and Chemistry, 22: 2569-2575.

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Dalton, V.M. and C.H. Handley. 1991. Social Myotis. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia.

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NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: April 27, 2010).

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Neves, R.J. 1991. James spinymussel. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia.

Wellman, Julia (DEQ)

From: Warren, Arlene (VDH)
Sent: Monday, November 16, 2015 12:35 PM
To: Wellman, Julia (DEQ)
Cc: Soto, Roy (VDH)
Subject: Army: Rivanna Station Real Property Master Plan Albemarle County/City of Charlottesville Project 15-169F

Project Name: Army: Rivanna Station Real Property Master Plan Project
Project #: 15-169F
UPC #: N/A
Location: Albemarle County/City of Charlottesville

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

It appears that the following public groundwater wells are located within a 1 mile radius of the project site (wells within a 1,000 ft radius are formatted in **bold**):

PWSID	District	CNYCTY	SYSNAME	FACNAME
2003206	**DISTRICT 10**	**ALBEMARLE**	**CHRIS GREENE LAKE**	**WELL 1 (PARK SIDE)**
2003206	**DISTRICT 10**	**ALBEMARLE**	**CHRIS GREENE LAKE**	**WELL 2 (LAKE SIDE)**

The following surface water intakes are located within a 5 mile radius of the project site:

PWSID	SYSNAME	FACNAME
2003525	NORTH RIVANNA WTP	NORTH FORK RIVANNA RIVER
2003725	SOUTH RIVANNA WTP	SOUTH FORK RIVANNA RIVER

The project is within the watershed of the following public surface water sources (intakes where the project falls within 5 miles into their watershed are formatted in **bold**):

PWSID	SYSNAME	FACNAME
2003525	**NORTH RIVANNA WTP**	**NORTH FORK RIVANNA RIVER**
2003725	**SOUTH RIVANNA WTP**	**SOUTH FORK RIVANNA RESERVOIR**

Best Management Practices should be employed on the project site including Erosion & Sedimentation Controls as well as Spill Prevention Controls & Countermeasures.

The well(s) within the 1,000 ft radius from project site, should be field marked and protected from accidental damage due to construction activities.

Care should be taken while transporting materials in and out of the project site, as to prevent impacts to surface water intakes within 5 miles.

There may be impacts to public drinking water sources due to this project if the mitigation efforts outlined above are not implemented.

Best Regards,

Arlene Fields Warren

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

TO: Julia Wellman, DEQ/EIR Environmental Program Planner

FROM: Steve Coe, DLPR Review Coordinator

DATE: November 13, 2015

COPIES: Sanjay Thirunagari, DLP&R Review Manager
EIR File

SUBJECT: EIR Project No. 15-169F Fort Belvoir Rivanna Station Real Property Master Plan, 2460 Defense Way, Charlottesville, VA 22911 – Review Comments

The Division of Land Protection & Revitalization has completed its review of the Environmental Impact Report regarding the Fort Belvoir Rivanna Station Real Property Master Plan, 2460 Defense Way, Charlottesville, VA 22911.

> The project scope: adoption and implementation of the Real Property Master Plan (RPMP) and to implement plan's proposed near-term development projects.

We have provided comments below concerning potential waste issues and environmental resources that could be affected and which may be impacted by this proposed project. The submittal addressed potential solid and/or hazardous waste issues. The submittal indicated a search of waste-related databases. The DLPR staff has conducted a cursory review of its database files, including a GIS database search (200 foot radius) of the project site and determined the information below.

The staff's summary comments are as follows:

Hazardous Waste Facilities –none in close proximity to the project site

CERCLA Sites – none in close proximity to the project site

> The following websites may prove helpful in locating additional information for these identification numbers: http://www.epa.gov/superfund/sites/cursites/index.htm or http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

FUDs Sites – none

Solid Waste Facilities – none

VRP Sites - none

Petroleum Release Sites – one at the project site, identified in the submittal

ID# 20136037 – Joint Use Intelligence Analysis Facility, 2460 Defense Way, Charlottesville, VA 22911. Event Date: 12-28-2012. Status: Closed.

(Note: Dates above are the latest PC Database edit dates of the specific petroleum contamination (PC) Case Nos.)

Please note that the DEQ's PC case files of the PC Case Nos., within 100 feet of the proposed project are identified above and these petroleum releases should be evaluated by the project engineer or manager to establish the exact location of the release and the nature and extent of the petroleum release and the potential to impact the proposed project. The facility representative should contact the DEQ's Valley Regional Office (540-574-7800) Tanks Program for further information and the administrative records of the PC cases which are in close proximity to the proposed project.

GENERAL COMMENTS

Soil, Sediment, and Waste Management

Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous materials, 49 CFR Part 107.

Asbestos and/or Lead-based Paint

All structures being demolished/renovated/ removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. Questions may be directed to Mr. Graham Simmerman at the Valley Regional Office (540-574-7865).

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Steve Coe, Environmental Specialist, at (804) 698-4029.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: Julia H. Wellman **DEQ - OEIA PROJECT NUMBER: 15 – 169F**

PROJECT TYPE: ☐ STATE EA / EIR **X FEDERAL EA / EIS** ☐ SCC

☐ CONSISTENCY DETERMINATION

PROJECT TITLE: RIVANNA STATION REAL PROPERTY MASTER PLAN

PROJECT SPONSOR: DOD / DEPARTMENT OF THE ARMY / FORT BELVOIR

PROJECT LOCATION: X OZONE ATTAINMENT AREA

REGULATORY REQUIREMENTSMAY BE APPLICABLE TO: **X MASTER PLAN**
☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-45-760 et seq. – Asphalt Paving operations
3. **X 9 VAC 5-130 et seq. – Open Burning**
4. **X 9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
5. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to_____
6. ☐ 9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7. ☐ 9 VAC 5-50-400 Subpart_____, Standards of Performance for New Stationary Sources, designates standards of performance for the_____
8. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9. ☐ 9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
10. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11. ☐ 9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:
When constructions are involved.

K. S. Narasimhan

(Kotur S. Narasimhan)
Office of Air Data Analysis **DATE: October 29, 2015**

Wellman, Julia (DEQ)

From: Fowler, Keith (DEQ)
Sent: Wednesday, October 28, 2015 1:34 PM
To: Wellman, Julia (DEQ)
Subject: RE: NEW PROJECT ARMY 15-169F

Below are DEQ Valley Regional Office review comments for the subject project. Other than the information provided below, I have no additional recommendations re this project. Please let me know if you need any additional information.

1. Water Quality and Wetlands. Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers. The Army Corps of Engineers is the final authority for an official confirmation of whether there are federal jurisdictional wetlands or other surface waters that may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs). If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact Eric Millard at DEQ-VRO (540-574-7813, Eric.Millard@deq.virginia.gov) to determine the need for any permits prior to commencing work that could impact surface waters or wetlands.

2. Erosion and Sediment Control and Storm Water Management. DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Also, denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality. Specific questions regarding the Stormwater Management Program requirements should be directed to Gary Flory at DEQ-VRO (540-574-7840, Gary.Flory@deq.virginia.gov).

3. Other Site Development Considerations. Fugitive dust generated during construction should be controlled by using measures such as the prompt removal of spilled or tracked dirt or other materials from paved streets, limited application of water to suppress dust, and washing of construction vehicles and paved roadways immediately adjacent to construction sites. Do not use water for dust control to the extent that it results in runoff to surface waters or wetlands. Land clearing wastes (vegetative debris) generated during construction should be properly managed in accordance with applicable regulations and local ordinances. Shredding/chipping of vegetative debris and reuse on-site is usually recommended over open burning. Any open burning of vegetative debris must be performed in accordance with the Open Burning Regulation and coordinated with the local fire official to ensure that all local ordinances are met. A copy of DEQ's open burning regulation and related information are accessible from http://www.deq.virginia.gov/Programs/Air/AirQualityPlans/OpenBurning.aspx. Also, no open burning should take place in violation of the Virginia Waste Management Regulations, http://law.lis.virginia.gov/admincode/title9/agency20/. Contact Keith Fowler at DEQ-VRO (540-574-7812, Keith.Fowler@deq.virginia.gov) for any questions related to the proper control of fugitive dust, or open burning requirements and prohibitions.

4. Air Quality. Installation / operation / modification of stationary or portable fuel burning equipment (e.g., generators, wood chippers/grinders, boilers, etc.) or other sources of air pollutants may be subject to registration and/or air permitting requirements (http://www.deq.virginia.gov/Programs/Air/PermittingCompliance/Permitting/TypesofAirPermits.aspx); for questions regarding this, please contact Janardan Pandey at DEQ-VRO (540-574-7817, Janardan.Pandey@deq.virginia.gov).

5. Petroleum Storage Tanks. Installation / operation / modification of tanks used for the storage of petroleum and CERCLA substances may be subject to registration and/or other regulatory requirements

(http://www.deq.virginia.gov/Programs/LandProtectionRevitalization/PetroleumProgram/StorageTanks.aspx). If petroleum-contaminated soils or water are encountered during excavation work, or if old petroleum tanks need to be removed or replaced, contact DEQ. For questions regarding any of this, please contact David Forrer at DEQ-VRO (540-574-7837, David.Forrer@deq.virginia.gov).

6. Solid and Hazardous Wastes, and Hazardous Substances. DEQ administers the Virginia Waste Management Regulations, http://law.lis.virginia.gov/admincode/title9/agency20/. All solid wastes, hazardous wastes, and hazardous materials, including construction and demolition (C&D) wastes and universal wastes (batteries, fluorescent lights, refrigerants, mercury switches, mercury thermostats, etc.), must be managed in accordance with all applicable federal, state, and local environmental regulations. The generation of hazardous wastes should be minimized and solid wastes generated at the site should be reduced at the source, reused, or recycled. DEQ encourages the management of certain organic wastes by on-site composting or reuse as animal feed or soil amendment. Also, if you encounter any improperly disposed solid or hazardous wastes, or petroleum contaminated soils, you should contact DEQ-VRO. You may wish to refer to the web link for "What's in My Back Yard?", http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx, to help you determine areas where residual contamination may be more likely. Contact Graham Simmerman at DEQ-VRO (540-574-7865, Graham.Simmerman@deq.virginia.gov) for any questions related to waste management / disposal. Manage / dispose of any asbestos-containing materials (ACMs) in accordance with Virginia Department of Labor and Industry (DOLI) regulations. Contact Doug Wiggins at DOLI (Richard.Wiggins@doli.virginia.gov, 540-562-3580, ext. 131) for any questions related to management / disposal of ACMs. Any open burning must be conducted in compliance with the Open Burning Regulation, http://law.lis.virginia.gov/admincode/title9/agency5/chapter130/. Contact Keith Fowler at DEQ-VRO (540-574-7812, Keith.Fowler@deq.virginia.gov) for any questions related to open burning requirements and prohibitions.

7. Pesticides and Herbicides. DEQ recommends that herbicides or pesticides for construction or landscape maintenance, when necessary, be used in accordance with the principles of integrated pest management, and that the least toxic pesticides that are effective in controlling the target species be used. Please contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information. If applying aquatic pesticides to surface waters, the applicant must comply with the DEQ's Pesticide General Permit, http://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination/PermitsFees.aspx#pest .

8. Natural Heritage Resources. The Virginia Department of Conservation and Recreation (DCR) Division of Natural Heritage (DNH) can search its Biotics Data System for occurrences of natural heritage resources from the area indicated on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered animal and plant species, unique or exemplary natural communities, and significant geologic communities. We recommend that the DNH be contacted at (804) 786-7951 to secure updated information on natural heritage resources before commencing the project.

9. Wildlife Resources. The Virginia Department of Game and Inland Fisheries (DGIF) exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species. DGIF determines likely impacts on fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts. For more information, see the DGIF website at http://www.dgif.virginia.gov or contact Ray Fernald at (804) 367-6913.

10. Historic and Archaeological Resources. *Section 106 of the National Historic and Preservation Act of 1966*, as amended, requires that activities that receive federal funding must consider effects to properties that are listed or eligible for listing on the National Register of Historic Places. The Department of Historic Resources (DHR) conducts reviews of projects to determine their effect on historic structures or cultural resources. If applicable, contact DHR. In the event that archaeological resources are encountered during construction, immediately contact Ms. Ethel Eaton, DHR, at (804) 367-2323.

11. Pollution Prevention. DEQ recommends that construction projects incorporate the principles of pollution prevention including the following recommendations:

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content and toxicity level should be considered.
- Consider contractors' commitment to the environment when choosing contractors. Also, specifications regarding raw material selection (alternative fuels and energy sources) and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable practices and materials in infrastructure and construction and design. These could include asphalt and concrete containing recycled materials and integrated pest management in landscaping.
- Integrate pollution prevention techniques into maintenance and operation activities to include source reduction (fixing leaks, energy efficient products).

Pollution prevention measures are likely to reduce potential environmental impacts and reduce costs for material purchasing and waste disposal. DEQ's Office of Pollution of Prevention hosts a number of programs and initiatives that provide non-regulatory assistance to businesses, institutions, and communities including the Virginia Environmental Excellence Program and Virginia Green. For more information, please visit our web site at http://www.deq.virginia.gov/Programs/PollutionPrevention.aspx.

12. Energy Conservation. Any structures should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. For example, energy efficiency of the structures can be enhanced by maximizing the use of the following:

- thermally-efficient building shell components (roof, wall, floor, and insulation);
- high efficiency heating, ventilation, air conditioning systems; and
- high efficiency lighting systems.

Matt Heller at the Department of Mines, Minerals and Energy, (434) 951-6351, may be contacted for assistance in meeting this challenge.

13. Potable Water. Installation of potable water lines and appurtenances must comply with the State's Waterworks Regulations. The Virginia Department of Health (VDH), http://www.vdh.state.va.us/ODW/, administers both federal and state laws governing waterworks operation. For more information, contact the VDH's Lexington Office of Water Programs at (540) 463-7136.

14. Wastewaters. DEQ has approval authority over wastewater discharges per the State Water Control Law and corresponding regulations. This includes discharges or land application of any wastewaters generated from washing of vehicles or other practices relevant to this project. DEQ also has approval authority over plans and specifications for sewage collection systems and treatment works (except drainfields and other on-site systems approved by the local health department), per the Sewage Collection and Treatment (SCAT) Regulations, http://law.lis.virginia.gov/admincode/title9/agency25/chapter790/. Any wastewaters generated by this project must be properly managed and disposed. For additional information and assistance, contact Brandon Kiracofe at DEQ-VRO (540-574-7892, Brandon.Kiracofe@deq.virginia.gov).

B. Keith Fowler | Deputy Regional Director | DEQ-Valley Regional Office | 4411 Early Road | P. O. Box 3000 | Harrisonburg, VA 22801 | 540-574-7812 | Keith.Fowler@deq.virginia.gov

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From: Fulcher, Valerie (DEQ)
Sent: Tuesday, October 27, 2015 3:17 PM
To: dgif-ESS Projects (DGIF); Tignor, Keith (VDACS); Rhur, Robbie (DCR); odwreview (VDH); Coe, Stephen (DEQ); Narasimhan, Kotur (DEQ); Gavan, Larry (DEQ); Sepety, Holly (DEQ); Carawan, Daniel (DEQ); Fowler, Keith (DEQ); Kirchen, Roger (DHR); Spears, David (DMME); Evans, Gregory (DOF); Watkinson, Tony (MRC); Ray, Alfred C. (VDOT); Cromwell, James R. (VDOT); cboyles@tjpdc.org; Foley, Thomas; creasym@charlottesville.org; Simmers, Susan H. (DOAV)
Cc: Wellman, Julia (DEQ)
Subject: NEW PROJECT ARMY 15-169F

Good afternoon - attached is a new EIR review request/ project:

Army: Rivanna Station Real Property Master Plan
Albemarle County/City of Charlottesville
DEQ #15-169F

The document is available at www.deq.virginia.gov/fileshare/oeir in the ARMY folder.

The due date for comments is NOVEMBER 16, 2015. You can send your comments either directly to Julia by email (Julia.Wellman@deq.virginia.gov), or you can send your comments by regular interagency/U.S. mail to the Department of Environmental Quality, Office of Environmental Impact Review, 629 E. Main St., 6th Floor, Richmond, VA 23219.

If you have any questions, please email Julia.

Wellman, Julia (DEQ)

From: Proctor, Charles C. (VDOT)
Sent: Tuesday, November 17, 2015 11:57 AM
To: Wellman, Julia (DEQ)
Cc: Painter, Daniel (VDOT); Jordan, Elizabeth (VDOT); Ray, Alfred C. (VDOT); Cromwell, James R. (VDOT)
Subject: RE: NEW PROJECT ARMY 15-169F

Julia,

I have reviewed the EA for the proposed renovation work planned Rivanna Station (Army 15-169F) and have the following comments:

- The Assessment evaluates two scenarios for the consolidation of all personnel within a secure perimeter of the Rivanna Station to reduce reliance on leased space, improve security, enhance the Anti-Terrorism Force Protection (ATFP) condition, and provide better mission continuity and connectivity. *The improvements were not identified to increase the number of personnel at the facility or the traffic to/from the Station*;
- The study states that the project "would have little to no impact on the existing traffic on Route 29 or at the signal at the intersection of Route 29 and Boulder Road". The current roadways internal to the site are privately maintained or internal to the Station. The project is planned to consolidate the operations to further internalize the facility and reduce the need for external trips form the station. *This project should reduce the traffic impacts from the development on the private roadways and should result of no additional impact to the public roadways.*;
- During construction there may be temporary increases in traffic to and from the site and some changes in traffic patterns internal to the development. These impacts were not discussed in the Environmental Assessment, but should be considered as the project is designed to minimize the impacts during those period of activity.

Let me know if you have any questions.

Thanks,

Chuck

Charles C. Proctor III
Culpeper District
Planning and Land Development Section
Phone 540-829-7558
charles.proctor@vdot.virginia.gov

From: Cromwell, James R. (VDOT)
Sent: Tuesday, October 27, 2015 3:21 PM
To: Painter, Daniel (VDOT)
Cc: Jordan, Elizabeth (VDOT); Ray, Alfred C. (VDOT)
Subject: FW: NEW PROJECT ARMY 15-169F

DATE: October 27, 2015

TO: District Transportation Planning

PROJECT: Army: Rivanna Station Real Property Master Plan
Albemarle County/City of Charlottesville

Wellman, Julia (DEQ)

From: Fulcher, Valerie (DEQ)
Sent: Wednesday, November 18, 2015 8:30 AM
To: Wellman, Julia (DEQ)
Subject: FW: NEW PROJECT ARMY 15-169F

From: Owen, Randy (MRC)
Sent: Tuesday, November 17, 2015 7:52 PM
To: Fulcher, Valerie (DEQ)
Subject: RE: NEW PROJECT ARMY 15-169F

Please be advised that the Commission, pursuant to Section 28.2-1200 et seq of the Code of Virginia, has jurisdiction over any encroachments in, on, or over the beds of the bays, ocean, rivers, streams, or creeks which are the property of the Commonwealth. Accordingly, if any portion of the subject project involves any encroachments channelward of ordinary high water along natural rivers and streams above the fall line or mean low water below the fall line, a permit may be required from our agency. Any jurisdictional impacts will be reviewed by VMRC during the Joint Permit Application process.

From: Watkinson, Tony (MRC)
Sent: Monday, November 02, 2015 4:57 PM
To: Owen, Randy (MRC)
Subject: FW: NEW PROJECT ARMY 15-169F

From: Fulcher, Valerie (DEQ)
Sent: Tuesday, October 27, 2015 3:17 PM
To: dgif-ESS Projects (DGIF); Tignor, Keith (VDACS); Rhur, Robbie (DCR); odwreview (VDH); Coe, Stephen (DEQ); Narasimhan, Kotur (DEQ); Gavan, Larry (DEQ); Sepety, Holly (DEQ); Carawan, Daniel (DEQ); Fowler, Keith (DEQ); Kirchen, Roger (DHR); Spears, David (DMME); Evans, Gregory (DOF); Watkinson, Tony (MRC); Ray, Alfred C. (VDOT); Cromwell, James R. (VDOT); cboyles@tjpdc.org; Foley, Thomas; creasym@charlottesville.org; Simmers, Susan H. (DOAV)
Cc: Wellman, Julia (DEQ)
Subject: NEW PROJECT ARMY 15-169F

Good afternoon - attached is a new EIR review request/ project:

Army: Rivanna Station Real Property Master Plan
Albemarle County/City of Charlottesville
DEQ #15-169F

The document is available at www.deq.virginia.gov/fileshare/oeir in the ARMY folder.

The due date for comments is NOVEMBER 16, 2015. You can send your comments either directly to Julia by email (Julia.Wellman@deq.virginia.gov), or you can send your comments by regular interagency/U.S. mail to the Department of Environmental Quality, Office of Environmental Impact Review, 629 E. Main St., 6th Floor, Richmond, VA 23219.

If you have any questions, please email Julia.

Thanks!

Valerie

Valerie A. Fulcher, CAP-OM, Executive Secretary Sr.
Department of Environmental Quality
Environmental Enhancement - Office of Environmental Impact Review
629 E. Main St., 6th Floor
Richmond, VA 23219
804/698-4330
804/698-4319 (Fax)
email: Valerie.Fulcher@deq.virginia.gov
http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview.aspx

For program updates and public notices please subscribe to the OEIR News Feed

Wellman, Julia (DEQ)

From: Greg Evans [gregevans8400@outlook.com]
Sent: Tuesday, November 17, 2015 4:31 PM
To: Wellman, Julia (DEQ)
Cc: Evans, Gregory (DOF)
Subject: DOF comments re: Army: Rivanna Station Real Property Master Plan

Julia,

I'm sending this to you from my personal email address because for some reason I have not been able to connect to my DOF email all day. We have just put a new server and upgraded program in place and I think there must still be some bugs in it.

I have completed a desk review of the Army: Rivanna Station Real Property Master Plan. Based on the materials provided, DOF concurs with the option A, the preferred option proposed. Under option A, only 1.4 acres of trees out of a total of 230 acres of deciduous forest would be removed and that would be within already highly fragmented and developed areas.

This concludes DOF's comments.

Greg

Greg Evans
Mitigation Program Manager
Virginia Department of Forestry
gregory.evans@dof.virginia.gov

If you have not already commented, please note that comments are due today. Thank you.

Julia Wellman
Environmental Impact Review Coordinator
Department of Environmental Quality
629 E Main Street
Richmond, VA 23219
(804) 698-4326
Julia.Wellman@deq.virginia.gov
www.deq.virginia.gov

**** For program updates and public notices, please subscribe to the OEIR News Feed.****

From: Fulcher, Valerie (DEQ)
Sent: Tuesday, October 27, 2015 3:17 PM
To: dgif-ESS Projects (DGIF); Tignor, Keith (VDACS); Rhur, Robbie (DCR); odwreview (VDH); Coe, Stephen (DEQ); Narasimhan, Kotur (DEQ); Gavan, Larry (DEQ); Sepety, Holly (DEQ); Carawan, Daniel (DEQ); Fowler, Keith (DEQ);

COMMONWEALTH of VIRGINIA

Randall P Burdette
Director

Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624
FAX • (804) 236-3635

Transmitted via Email

October 28, 2015

Ms. Julia Wellman
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, VA 23219

Re: Rivanna Station Real Property Master Plan
Project Number: 15-169F

Dear Ms. Wellman:

Thank you for the opportunity to comment on the Rivanna Station Real Property Master Plan project in Albemarle County. The closest public-use airport to the proposed project location is the Charlottesville-Albemarle Airport. Rivanna Station is less than 2.5 miles from the airport.

To insure that the proposed facility modifications and new facilities, especially the communication tower, would not create a hazard to air navigation for the airport, the applicant should confirm with FAA that Part 77 safety areas are not penetrated through the filing of Form 7460. FAA's Washington Airports District Office can be contacted at 703-661-1354 for additional information.

The design of the proposed facility modifications and new facilities, especially the communication tower, must prevent interference with pilots' safe ingress and egress at the airport, both in its present configuration and with planned improvements. In addition to the height restrictions mentioned in the environmental assessment, the design, including exterior lighting, needs to prevent glare and related concerns from interfering with activity at the airport.

Operational activities at the project site should not pose a hazard or impediment to pilots using the airport, especially the approaches for Runway 21. Such hazards or impediments include interference with navigation and communication equipment, interference with existing and planned approach procedures for all aircraft published for or by the airport, generation of glare from building materials and external lights, and attraction of wildlife.

Construction activity in the vicinity of an airport, especially involving heavy equipment, must be in compliance with FAA Advisory Circular 150/5370-2E *Operational Safety on Airports During Construction*.

Coordination should take place with the airport to insure continuing operations at the airport in accordance with its master plan and compatibility between uses.

Please let me know if you have any questions on our comments.

Sincerely,

Susan H. Simmers

Susan H. Simmers
Senior Aviation Planner

ec: Melinda Crawford, Charlottesville-Albemarle Airport

100 DOAVAS 20151028 DEQ 15-169F Rivanna Station RPMP W

From: Warren, Arlene (VDH)
To: Barbara Bottiger
Cc: Soto, Roy (VDH); ashley.a.pilakowski2.civ@mail.mil; Wellman, Julia (DEQ)
Subject: RE: Department of Army, Fort Belvoir Environmental Assessment: Rivanna Station Real Property Master Plan, Albemarle County (DEQ 15-169F)
Date: Tuesday, December 08, 2015 4:54:40 PM
Attachments: 15169F_Wells_GIS_Data.zip

Barbara,

We have compared your request with our original findings and noticed we had an error. Please accept the following as the revised project review comments (see below). We are attaching the requested GIS data to support the latter findings regarding wells.

Changes include:
- Removed bold format from wells near the project site
- Revised watersheds

Project Name: Army: Rivanna Station Real Property Master Plan Project
Project #: 15-169F
UPC #: N/A
Location: Albemarle County/City of Charlottesville

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

It appears that the following public groundwater wells are located within a 1 mile radius of the project site (wells within a 1,000 ft. radius are formatted in **bold**):

PWSID	District	CNYCTY	SYSNAME	FACNAME
2003206	DISTRICT 10	ALBEMARLE	CHRIS GREENE LAKE	WELL 1 (PARK SIDE)
2003206	DISTRICT 10	ALBEMARLE	CHRIS GREENE LAKE	WELL 2 (LAKE SIDE)

S.10-1A

The following surface water intakes are located within a 5 mile radius of the project site:

PWSID	SYSNAME	FACNAME
2003525	NORTH RIVANNA WTP	NORTH FORK RIVANNA RIVER
2003725	SOUTH RIVANNA WTP	SOUTH FORK RIVANNA RIVER

The project is within the watershed of the following public surface water sources (intakes where the project falls within 5 miles into their watershed are formatted in **bold**):

PWSID	SYSNAME	FACNAME
4075735	JAMES RIVER CORRECTIONAL CTR	JAMES RIVER INTAKE
2065480	LAKE MONTICELLO	RIVANNA RIVER
4760100	RICHMOND, CITY OF	RAW WATER INTAKE
4087125	HENRICO COUNTY WATER SYSTEM	HENRICO RAW WATER INTAKE

3670800	VIRGINIA-AMERICAN WATER CO.	APPOMATTOX RIVER

S.10-1A (cont.)

Best Management Practices should be employed on the project site including Erosion & Sedimentation Controls as well as Spill Prevention Controls & Countermeasures.

Care should be taken while transporting materials in and out of the project site, as to prevent impacts to surface water intakes within 5 miles.

There may be impacts to public drinking water sources due to this project if the mitigation efforts outlined above are not implemented.

Best Regards,

Arlene Fields Warren
Office of Drinking Water
804-864-7781

From: Soto, Roy (VDH)
Sent: Friday, December 04, 2015 4:05 PM
To: Warren, Arlene (VDH)
Subject: FW: Department of Army, Fort Belvoir Environmental Assessment: Rivanna Station Real Property Master Plan, Albemarle County (DEQ 15-169F)

Arlene:

This is one of the requests I mentioned. Let's address together on Tuesday.

Thanks,

Roy Soto, PE, PMP
Special Projects Engineer
Virginia Department of Health, Office of Drinking Water
James Madison Building
109 Governor St, Room 628
Richmond, VA 23219
804.864.7516 (D)
www.vdh.virginia.gov/ODW/SourceWaterPrograms

From: Barbara Bottiger [mailto:bbottiger@hntb.com]
Sent: Friday, December 04, 2015 3:44 PM
To: Soto, Roy (VDH)
Cc: ashley.a.pilakowski2.civ@mail.mil
Subject: Department of Army, Fort Belvoir Environmental Assessment: Rivanna Station Real Property Master Plan, Albemarle County (DEQ 15-169F)

Mr. Sotto,

I am assisting the Army with preparing an EA for proposed development at Rivanna Station in Albemarle County.

The EA was submitted to the Virginia Department of Environmental Quality for distribution and review. The Virginia Department of Health Office of Drinking Water reviewed the EA and provided the following information regarding public wells:

Department of Army, Fort Belvoir Environmental Assessment: Rivanna Station Real Property Master Plan, Albemarle County (DEQ 15-169F)
It appears that the following public groundwater wells are located within a 1,000-foot radius of the project site:

PWSID	District	CNYCTY	SYSNAME	FACNAME
2003206	DISTRICT 10	ALBEMARLE	CHRIS GREENE LAKE	WELL 1(PARK SIDE)
2003206	DISTRICT 10	ALBEMARLE	CHRIS GREENE LAKE	WELL 2 (LAKE SIDE)

The following surface water intakes are located within a 5-mi1e radius of the project site:

PWSID	SYSNAME	FACNAME
2003525	NORTH RIVANNA WTP	NORTH FORK RIVANNA RIVER
2003725	SOUTH RIVANNAWTP	SOUTH FORK RIVANNA RIVER

The project falls within 5 miles into the watersheds of the following public surface water sources:

PWSID	SYSNAME	FACNAME
2003525	NORTH RIVANNA WTP	NORTH FORK RIVANNA RIVER
2003725	SOUTH RIVANNAWTP	SOUTH FORK RIVANNA RIVER

Could your office provide GIS data for the wells? We would like to map them to illustrate their locations in relation to the proposed projects.

Respectfully,

Barbara A. Bottiger, CEP, ENV SP
Senior Environmental Planner
HNTB Corporation
2900 South Quincy Street
Arlington, VA 22206

703-253-5867

This e-mail and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom they are addressed. If you are NOT the intended recipient and receive this communication, please delete this message and any attachments. Thank you.
This message was processed by Ironport email security.

Barbara Bottiger

Subject: FW: Rivanna Station RPMP - EA & FNSI Comments

-----Original Message-----
From: Victoria Fort [mailto:vfort@rivanna.org]
Sent: Wednesday, November 25, 2015 10:31 AM
To: USARMY Ft Belvoir IMCOM Atlantic Mailbox ENRD
Subject: [Non-DoD Source] Rivanna Station RPMP - EA & FNSI Comments

To whom it may concern:

The Rivanna Water & Sewer Authority has reviewed the Environmental Assessment for the Rivanna Station Real Property Master Plan (RPMP) as prepared by HTNB and dated September 2015 and takes no exception to the findings of the assessment. RWSA does wish to provide the following general comments on the proposed expansion of facilities represented in Alternatives A and B: L.1-1

1. RWSA will require a flow capacity certification if expansion of the facility will result in 40,000 gallons or more of additional wastewater production. L.1-2

2. RWSA wishes to be provided an estimate of proposed additional water usage from the expansion in order to verify that sufficient capacity will be available once all improvements are implemented. L.1-3

3. The designer should note that there are future plans to lower the HGL in this area from the current pressure band (overflow at 805') to the "urban" pressure band (overflow at 652'). Design of the water and fire suppression system should take both existing and future conditions into account. L.1-4

Please let me know if you have any questions or would like additional information on any of the items above.

Thank you,

Victoria

Victoria Fort, P.E.
Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlottesville, VA 22902
(P): (434) 977-2970 ext. 205
(F): (434) 295-1146

COUNTY OF ALBEMARLE
Department of Community Development
401 McIntire Road, North Wing
Charlottesville, Virginia 22902-4596
Phone (434) 296-5832 Fax (434) 972-4126

November 25, 2015

U.S. Army Garrison Fort Belvoir
Directorate of Public Works
Environmental and Natural Resource Division
Attention Felix M Mariani
Building 1442
9430 Jackson Loop, Suite 226
Fort Belvoir, VA 22060-5116

Dear Mr. Mariani:

Thank you for the opportunity to provide comment on the Environmental Assessment for the Rivanna Station Real Property Master Plan dated September 2015 provided to the County earlier this month. The County agrees with the finding of no significant environmental impact, especially with Alternative A and offers this additional information in the paragraphs below. L.2-1

Land Use

Albemarle County adopted an update to its Comprehensive Plan on June 10, 2015 of this year. Minimal changes to the Places29 Master Plan, of which this site is a part, took place but none in the area of Rivanna Station. L.2-2

Alternative A is almost entirely in an area designated for Office/R&D/Flex/Light Industrial use. Rivanna Station's uses fit into this land use designation. A small portion of a Neighborhood Service Center is also included in the Land Use Plan (Places29 Master Plan) in the area indicated as **Alternative A**. On the Land Use Plan, this center's depiction is general in location and could occur north of the **Alternative A** area. The uses proposed for Rivanna Station **Alternative A** are consistent with the recommended uses in the Land Use Plan for the area. A difference exists between the square footage recommended in the Places29 Master Plan and the amount of square footage described in the project for the warehouse. The Places29 Plan recommends no more than 40,000 square feet for warehouses and the project proposal is for 60,000 square feet. Otherwise, it appears that the uses and design are in keeping with recommended land use. L.2-3

As indicated in the Environmental Assessment, **Alternative B** would expand the existing boundary to the southeast by 14 acres which is recommended for low density residential uses in the Land Use Plan. Because the proposed uses are offsite parking facilities and a warehouse use, such expansion would not be consistent with the Land Use Plan. If **Alternative B** were to be consistent with the Land Use Plan, a change in land use designation would be needed as noted in the Assessment. As with **Alternative A**, the recommended building footprint would be no greater than 40,000 square feet for warehouses. In addition, as the Assessment points out L.2-4

because an island of Neighborhood Density residential land would be located south of this 14 acres, access would need to be provided to that residential area. L.2-4 cont.

Zoning

Land in both **Alternative A** and **Alternative B** has the same zoning. A portion is zoned for Light Industrial and the remainder is zoned Rural Area. For both alternatives, a change in zoning of the Rural Area would be needed if the project is to be consistent with the County's zoning designations.

The Environmental Assessment correctly notes the different zoning overlay districts which apply to this area. While it is unknown right now, new development in **Alternative A** or **B** may be visible from the Entrance Corridor (EC). It is preferred that any development which is visible be designed in accordance with EC guidelines. L.2-5

The Assessment indicates that with **Alternative B,** grading of preserved slopes might be needed. Grading on preserved slopes would not be consistent with the County's zoning regulations. **Alternative A** would be more in keeping with the zoning ordinance and not require grading on preserved slopes.

Air Quality

An understanding of air quality requirements has been demonstrated with the Assessment. To help prevent vehicle emissions, carpooling, vanpooling, and bicycling to the site should be encouraged. L.2-6

Noise

Staff has reviewed the expected impacts on noise and agrees with the Assessment's findings. L.2-7

Grading and Water Resources

The Water Protection Ordinance (WPO), which requires stream buffers on all perennial streams, applies to the project area and to be in keeping with the WPO, these buffers need to be respected. It appears that **Alternative A** has the least impact on water resources. A complete understanding of the permitting process for land disturbance and water quality has been demonstrated. L.2-8

Biological Resources

Staff has reviewed the expected impacts on biological resources and agrees with the Assessment's findings. L.2-9

Historic Properties

Staff agrees with the Assessment's findings and the need to conform to state and federal requirements in relation to archeological and architecturally historic sites. L.2-10

Socioeconomics/Economics

Staff agrees with the Assessment's findings on socioeconomic impacts. From an economic standpoint, we note that the EIA outlines that the 14-acre parcel being considered by the Army for purchase and expansion of the Rivanna Station facilities would not be generating local tax revenues; however, if Army operations are relocated/consolidated from leased space into a new building under ownership of the U.S. Army, the leased space currently being occupied by Army operations (i.e. ULC#1) could be made fully available to private sector enterprises that could, in turn, become taxpaying entities generating business personal property and business license tax revenues. L.2-11

Traffic and Transportation

With no increase in employees at the station, the County agrees with the Assessment's findings of little or no impact on existing traffic on Route 29. Carpooling, vanpooling, and bicycling can help reduce the number of car trips on Route 29. It should again be noted that if **Alternative B** is selected, access will be needed to the area of Neighborhood Density residential designated land south of the project site. L.2-12

Utilities, Hazardous Materials and Waste, and Cumulative Impacts

Staff has reviewed the Assessment for these items and agrees with its findings. L.2-13

Visual and Aesthetic Resources

If properties are visible from the County's Entrance Corridor (EC), use of the EC Guidelines will help ensure compatibility with the County's architectural and landscaping expectations for the entrances to the County's historic areas. L.2-14

In conclusion, the County agrees with the draft finding of No Significant Impact for either **Alternative A** or **Alternative B**. From an environmental standpoint and conformity with the County's Land Use Plan, preference is given to **Alternative A**. If Rivanna Station wishes to be in full conformity with the County's Plan and regulations changes to the Land Use Plan and Zoning would be needed for **Alternative B**. To be in conformity with the County's Land Use Plan and Zoning, **Alternative A** would just need to have the correct zoning designation on the parts of the property that are zoned RA Rural Area. L.2-15

If you have questions or need additional information, please do not hesitate to contact us.

Sincerely yours,

David B. Benish
Acting Director of Planning

APPENDIX B

Farmland and Conversion

Impact Rating Form

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U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name of Project Rivnna Station RPMP	Federal Agency Involved Department of the Army
Proposed Land Use Warehouse and Parking	County and State Albemarle, Virginia
PART II *(To be completed by NRCS)*	Date Request Received By NRCS / Person Completing Form:

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☐ NO ☐	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %	
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site				
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide Important or Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	100			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	12			
2. Perimeter In Non-urban Use	(10)	6			
3. Percent Of Site Being Farmed	(20)	0			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	0			
6. Distance To Urban Support Services	(15)	0			
7. Size Of Present Farm Unit Compared To Average	(10)	10			
8. Creation Of Non-farmable Farmland	(10)	10			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	0			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	43	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	100	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	43	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	143	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection:

Name of Federal agency representative completing this form:	Date:

(See Instructions on reverse side) **Form AD-1006 (03-02)**

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map**,** or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \text{ X } 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

APPENDIX C

Wetland Delineations

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WETLAND DELINEATION REPORT

Rivanna Station

Charlottesville, Virginia

US Army Corps of Engineers ®

1.0 Introduction

The following report presents the results of a delineation of potential waters of the U.S., including wetlands, within the vicinity of Rivanna Station, off Boulders Road, Charlottesville, Virginia. The purpose of the investigation was to identify the location and extent of all features under the potential jurisdiction of the U.S. Army Corps of Engineers (Corps of Engineers) under Section 404 of the Clean Water Act. The investigation was for two locations on the subject property totaling approximately 3 acres. The locations of each are near the Day Care Center (called site #1) and near the Nicholson Building (called Site #2) and are shown on the attached Map in red circles (Figure 1). This report supplements previously completed wetland surveys in support of the Real Property Master Plan and Environmental Assessment. Areas requiring survey are shown on the attached graphic. These areas correlate with previously delineated wetlands in 2008 but not updated in the most recent survey effort (2014).

2.0 Offsite Analysis

Prior to conducting fieldwork, the Corps of Engineers reviewed several offsite resources, including the USGS Topographic Quadrangle map for Earlysville, Virginia (Quad), the U.S. Fish and Wildlife Service National Wetland Inventory Map (NWI), and the USDA Natural Resources Conservation Service Soil Survey Maps. Based on review of the USGS Quads and aerial photography, the majority of the study areas fall within areas that are developed and maintained or landscaped around the buildings. No wetlands are mapped by the NWI in study areas. The North Fork Rivanna River is shown as the receiving water for an unnamed tributary of Herring Branch which passes through the site (partially piped). Finally, according to the soil survey maps, the study areas are underlain by Louisburg sandy, Glenelg loam and Albemarle fine sandy loam soils. All three soils are classified by the Natural Resources Conservation Service as non-hydric, well drained soils by the USDA.

3.0 Field Investigation

Fieldwork associated with the delineation was conducted on November 12, 2015 by Vincent Pero of the Corps of Engineers Regulatory Branch, Charlottesville Field Office. Mr. Pero has over 12 years of experience in wetland delineation and assessment, working in the Corps' Regulatory Branch and over 20 years of environmental experience and field work.

The two areas (identified in red circles in attachment 1) were investigated as part of the delineation. Wetlands were identified using the methods outlined in *1987 Corps of Engineers Wetland Delineation Manual* and the *Regional Supplement to the Corps of*

Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0).

Non-vegetated stream channels and other non-wetland water features were identified based on the presence of an ordinary high water mark.

Based upon the fieldwork completed, no wetlands or stream features were identified at the two sites.

Site # 1 (Daycare Center area) uplands are characterized as previous fill for a culvert pipe. Vegetation consist of maintained lawn and landscaping.
Site # 2 (Nicholson Building) uplands are characterized by maintained landscape along with scattered beech (*Fagus grandifolia),* blackgum (*Nyssa sylvatica*), and white oak (*Quercus alba).* Soils within these areas were generally bright brown to reddish (10YR 6/4 to 7.5YR 7/8 in Munsell color notation) with fill material being seen in some test pits. These Munsell color numbers are consistent with non-hydric soils.
Primary indicators of wetland hydrology were observed within the two study areas and include flowing water at site #1 and spots of saturation near the stormwater facilities at site #2.

There are numerous constructed storm water areas around site #2. Rivanna Station should ensure that the stormwater areas are routinely maintained as they could develop characteristics of wetlands without maintenance.

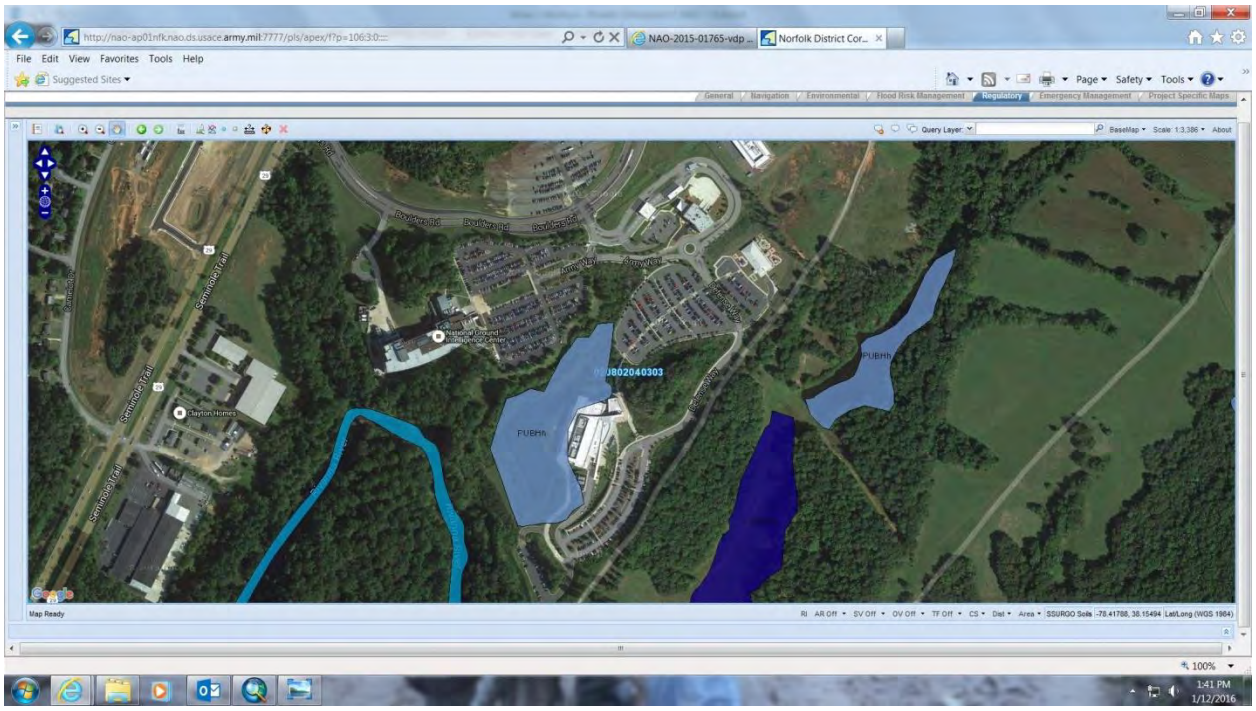
4.0 Permitting Requirements

Nontidal wetlands and other waters of the U.S. are regulated under Section 404 of the Clean Water Act (33 CFR 1344). A Department of the Army permit is required for work that involves the discharge of dredged or fill material into waters of the U.S., including wetlands. In addition, permits are required from the Corps of Engineers for the redeposit of dredged or fill material as well as for mechanized land clearing in wetlands and other waters of the U.S. that substantially disturbs the root system or involves pushing, dragging, or other similar activities that redeposit excavated soil material.
As there are no waters of the U.S. in Site #1 or Site #2, no permit is required from the Corps of Engineers.

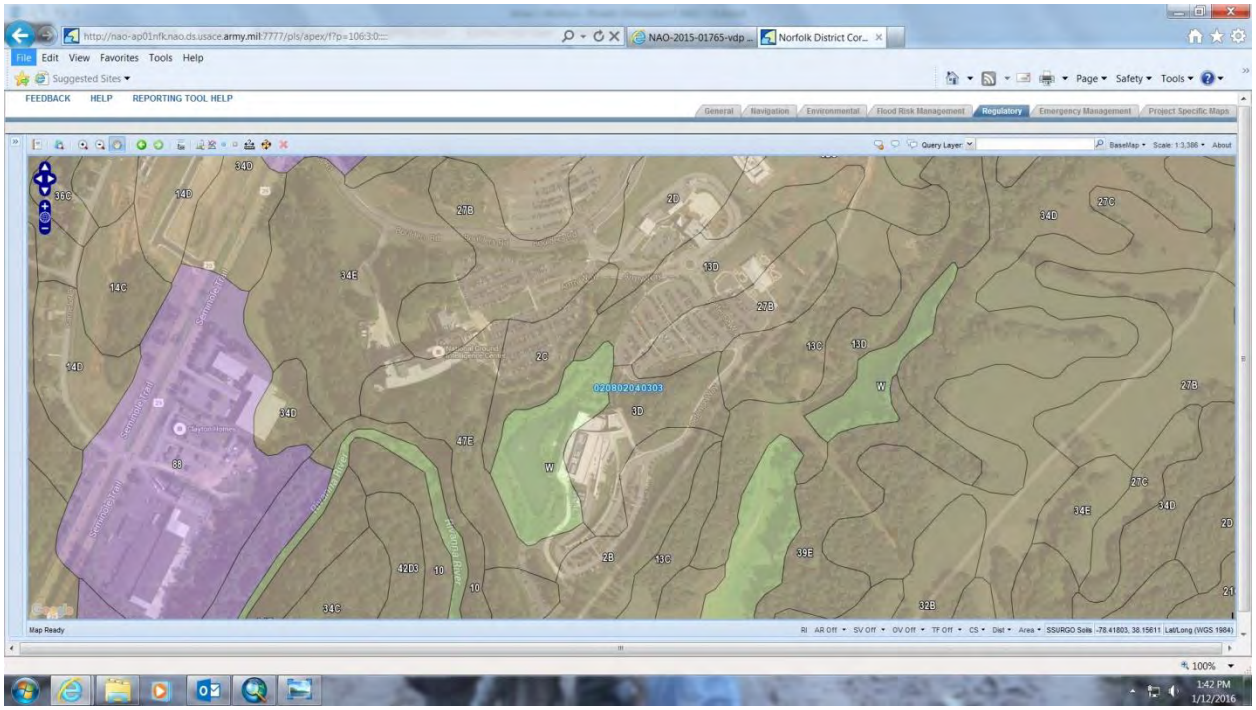
5.0 Resources

Attached

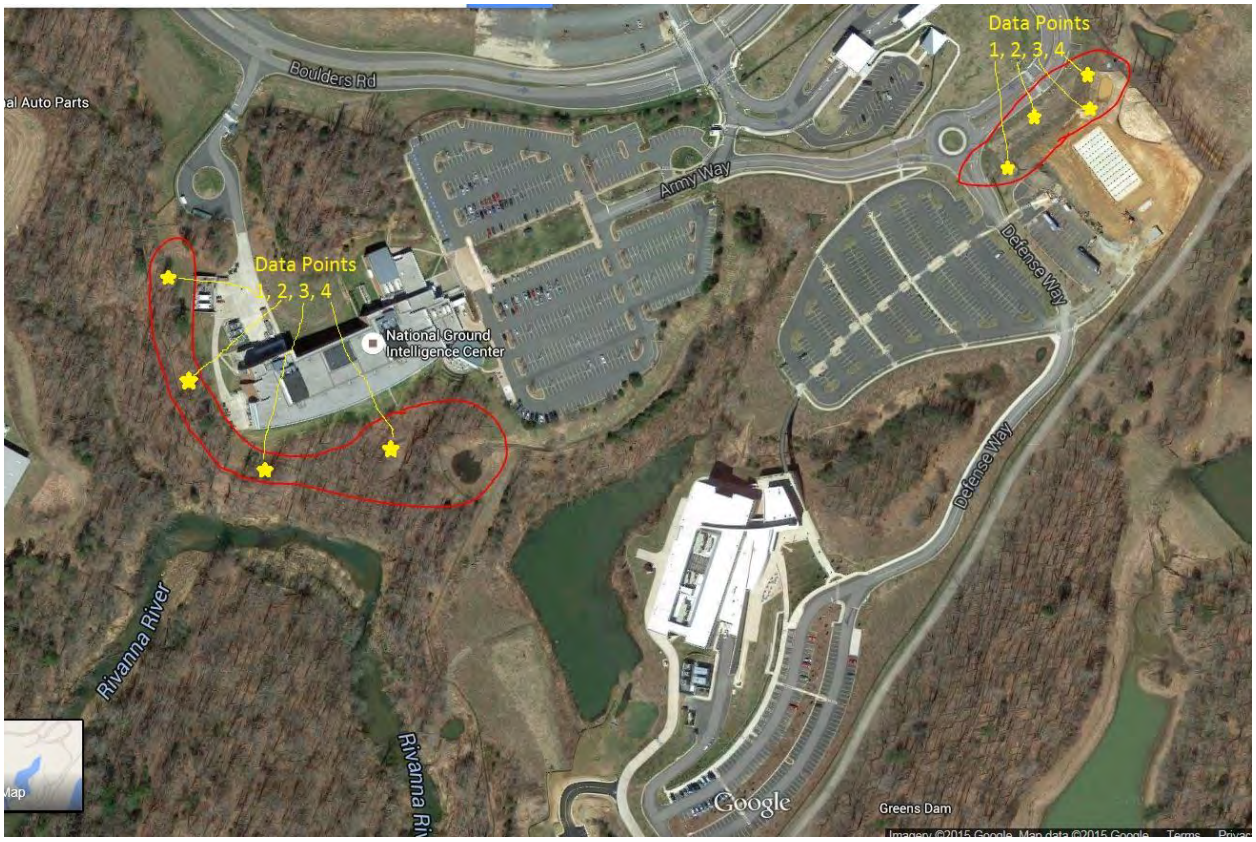
NWI MAP



Soils Maps



Data Locations


Data Points
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Greens Dam

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DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
FORT NORFOLK, 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

REPLY TO
ATTENTION OF:

January 20, 2016

Western Virginia Regulatory Section
NAO-2015-1765 (Rivanna Station)

Mr. Bill Sanders
Director
Directorate of Public Works
9430 Jackson Loop
Fort Belvoir, VA 22060 - 5116

Dear Mr. Sanders:

This letter is in reference to your request for a jurisdictional determination on property located at Rivanna Station, Albemarle County, Virginia.

According to a site visit by the Corps of Engineers and the Natural Resources Conservation Service, web soil survey, this is an area of non-hydric soils. We have determined there are no wetlands or streams present in the area of the red circles on the attached map. Our basis for this determination is the lack of hydrophytic vegetation, hydric soils, and hydrology. No Army Corps permit is required to do work in these two areas on the property.

This determination is valid for a period of five years from the date of this letter. This letter does not authorize the placement of dredged or fill material or mechanized land clearing in wetlands or waters of the United States on other areas of the property. The term discharge of dredged material is defined as "any addition, including any redeposit, of dredged material, including excavated material, into waters of the United States which is incidental to any activity including mechanized landclearing, ditching, channelization, or other excavation (33 CFR Part 232.2(1)(iii)). If you have any questions, please contact Vinny Pero at (434) 973-0568 or you may email me at Vincent.d.pero@usace.army.mil

Sincerely,

PERO.VINCENT.D.
1270778255

Digitally signed by PERO.VINCENT.D.1270778255
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=PERO.VINCENT.D.1270778255
Date: 2016.01.20 11:29:58 -05'00'

Vincent D. Pero
Western Virginia Regulatory Section

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Army Way
Defense Way
Defense Way
National Ground
Intelligence Center
Rivanna River
Rivanna Ri
Map
Google
Greens Dam

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Environmental Consultants

December 13, 2013

Mr. Vinny Pero
U.S. Army Corps of Engineers
Western Virginia Field Office
920 Gardens Blvd, Suite 200
Charlottesville, VA 22901

Re: **Request for Preliminary Jurisdictional Determination**
Rivanna Station, Albemarle County, Virginia
Latitude: 38°09'18.93"N Longitude: 78°24'45.77"W
WEG Project #5052

Applicant: Sybille Vega
Wetlands and Habitat Program Manager
U.S. Army Garrison Fort Belvoir
Directorate of Public Works
9430 Jackson Loop
Fort Belvoir, Virginia 22060

Dear Mr. Pero:

Williamsburg Environmental Group, Inc. (WEG) has been retained by the U.S. Army Garrison Fort Belvoir to conduct a detailed investigation of waters of the U.S., including wetlands, on the above-referenced project. The 21.98-acre site is located within the Rivanna River drainage basin in Albemarle County, Virginia (Figure 1). The subject sites are situated east of Seminole Trail (Route 29) and south of Boulders Road and can be accessed via a paved parking lot and an unnamed dirt road off Boulders Road (Figure 2). A copy of the Pre-Application and/or Jurisdictional Waters Determination Request Form is provided in Appendix A.

Off-site Evaluation – Prior to conducting fieldwork, WEG consulted the U.S. Geological Survey (USGS) 7.5-minute Topographical Quadrangle Map for Earlysville, Virginia (1984 revision), the National Wetlands Inventory Interactive Mapper (NWI), administered by the U.S. Fish and Wildlife Service, and the Web Soil Survey, administered by the Natural Resources Conservation Service (NRCS). The USGS quad map shows gently sloping sites comprised of forested land. The NWI map (Appendix B) depicts a freshwater pond and lake within the study area. Additionally, the soil survey (Appendix C) indicates that the site is underlain primarily by Albemarle fine sandy loam, Albemarle very stony fine sandy loam, Catoctin very stony silt loam Elioak loam, and Louisburg sandy loam, none of which are classified by the NRCS as hydric in Albemarle County, Virginia.

On-site Evaluation – Fieldwork was conducted during October 2013 using the Routine Determination Method as outlined in the 1987 *Corps of Engineers Wetland Delineation Manual* and methods described in the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*. Wetland flags were placed in the field by WEG and sequentially numbered to provide an on-site record of the delineation. The data sheets (Appendix D) used

150 Riverside Parkway, Suite 301 • Fredericksburg, Virginia 22406 • Tel 540-785-5544 • Fax 540-785-1742

in this investigation are attached, along with the Delineation Map (Appendix E) showing the GPS located limits of wetlands and other water features, as well as data point locations.

Site Description – Jurisdictional features identified by WEG within the project limits may be classified as forested, scrub-shrub, and emergent wetlands with open water features and non-vegetated stream channels present in association with drainageways. Wetland vegetation is typified by American sycamore (*Platanus occidentalis*), black willow (*Salix nigra*), box elder (*Acer negundo*), tag alder (*Alnus serrulata*), jewelweed (*Impatiens capensis*), fall panicgrass (*Panicum dichotomiflorum*), rice cutgrass (*Leersia oryzoides*), and Japanese stiltgrass (*Microstegium vimineum*). The transition from wetland to upland is generally identified by the break from hydric to non-hydric soils, a shift in a vegetative community dominated by hydrophytes (OBL to FAC) to non-hydrophytes (FACU to UPL), and a loss of indicators of hydrology, due primarily to microtopographic variability.

On behalf of our client, WEG respectfully requests that the Corps confirm our delineation. We would appreciate the opportunity to meet with you on-site to present our fieldwork. Please call to set up a meeting date or to discuss any questions regarding our investigation.

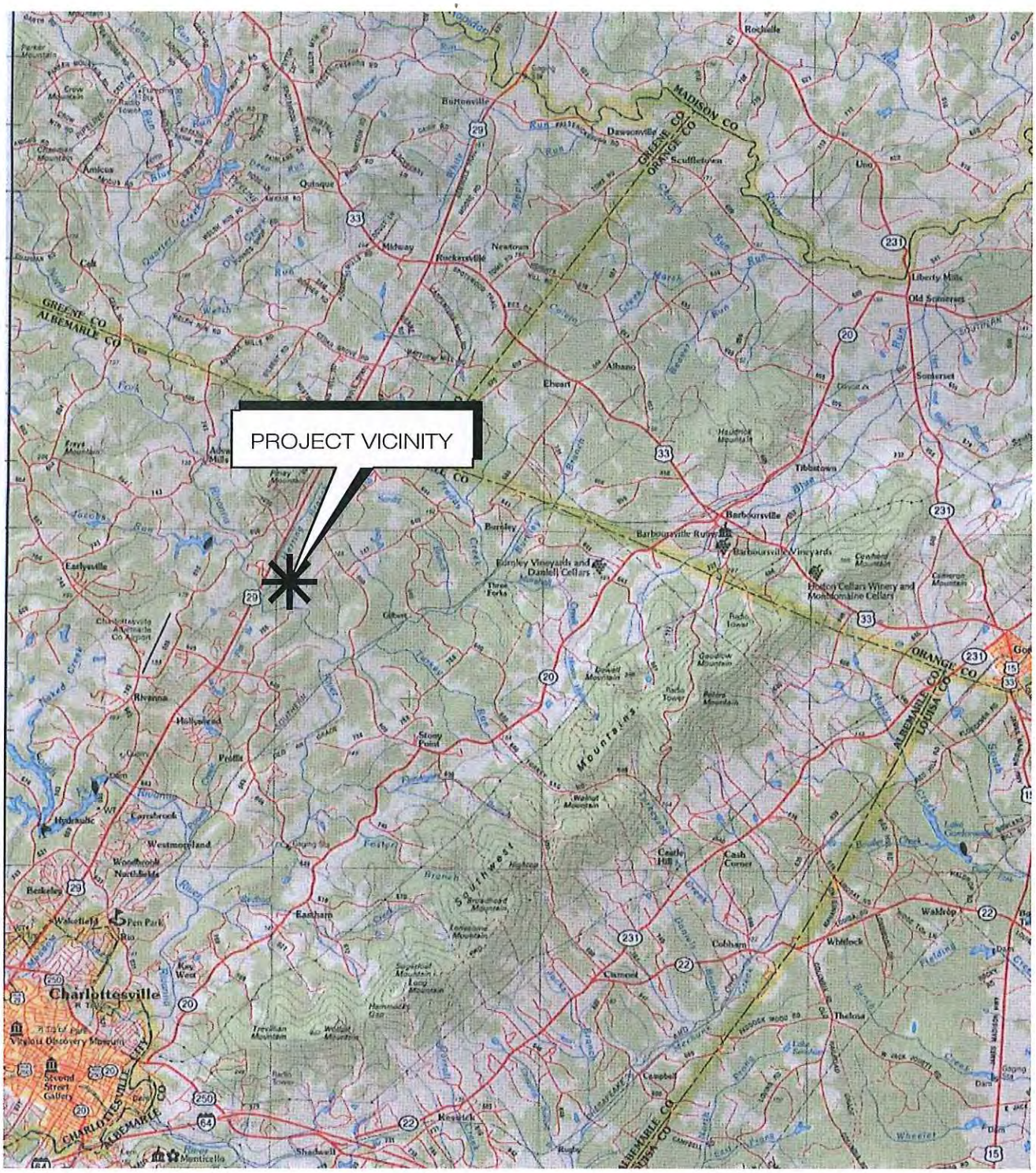
Thank you for your cooperation in this matter.

Sincerely,

Jason Mann
Senior Ecologist

Enclosures

cc: Mr. Royce Bassarab – HNTB Corporation
Ms. Loretta Cummings, Ph. D. - WEG



2.4 MILES 1.2 0 MILES 2.4 MILES

SCALE: 1 INCH = 2.4 MILES

SOURCE: VIRGINIA ATLAS AND GAZETTEER, DeLORME MAPPING CO., 1995.

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

FIGURE 1

PROJECT VICINITY MAP

RIVANNA STATION

ALBEMARLE COUNTY, VIRGINIA | DECEMBER 2013

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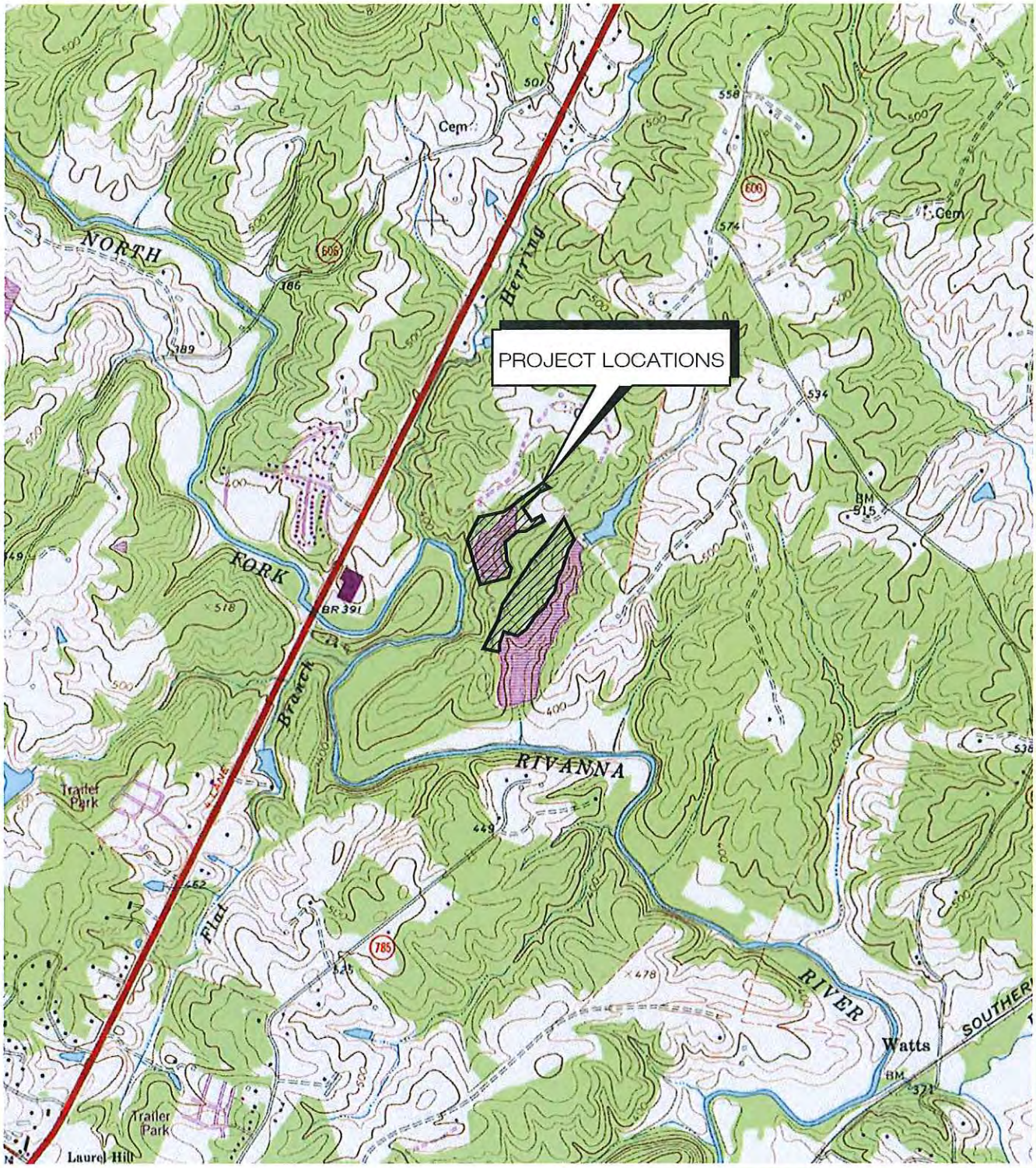

2000' 1000' 0' 2000'

SCALE: 1 INCH = 2000 FEET

LATITUDE: 38° 09' 18.93" N
LONGITUDE: 77° 24' 45.77" W

SOURCE: USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP, EARLYSVILLE, VA QUADRANGLE, REVISED 1984

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

FIGURE 2
PROJECT LOCATION MAP
RIVANNA STATION

ALBEMARLE COUNTY, VIRGINIA | DECEMBER 2013

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Appendix A

Pre-Application and JD Request Form

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NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Office
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: CENAO.REG_ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at:
http://www.nao.usace.army.mil/
Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: December 13, 2013

2. Project Name: Rivanna Station

3. City or County where property located: Albemarle County, VA

4. Address of property and directions (attach a map of the property location and a copy of the property plat): The site is situated east of Seminole Trail (Route 29) and south of Boulders Road and can be accessed via a paved parking lot and an unnamed dirt road off Boulders Road.

5. Coordinates of property (if known): Latitude: 38°09'18.93"N Longitude: 78°24'45.77"W

6. Size of property in acres: 21.98

7. Tax Parcel Number / GPIN (if available): Portions of Tax map 33-15, Parcel ID #03300-00-00-01500 and Tax Map 33-14 Parcel ID #03300-00-00-01400. 32-5C4 (03200-00-005C4) (retention pond on existing facility).

8. Name of Nearest Waterway: Rivanna River

9. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request: Development associated with Rivanna Station, a sub-

installation of US Army Fort Belvoir, Virginia. Development is anticipated to include development of a warehouse facility, a training facility, and expansion of an existing office building, parking relocation, secondary and emergency access to existing facilities, recreation trails, water distribution improvements, and an emergency services center.

10. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? ☒ YES ☐ NO ☐ UNKNOWN,

If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available: WEG completed a wetland delineation for JUIAF, submitted on November 17, 2003 and obtained a JD on February 17, 2004 from the Western Virginia Regulatory Section, project number 04-H00300-75 (N. Fork Rivanna River).

Property Owner Contact Information:

Property Owner Name: U.S. Army Corps/Eng Office/Counsel
Mailing Address: 803 Front Street
City: State: Zip: Norfolk, VA 23510
Daytime Telephone:
E-mail Address:

Property Owner Name: Next Generation, LLC
Mailing Address: PO Box 5548
City: State: Zip: Charlottesville VA 22905
Daytime Telephone:
E-mail Address:

If the person requesting the Jurisdictional Determination is **NOT** the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Sybille Vega - Wetlands and Habitat Program Manager
U.S. Army Garrison Fort Belvoir, Directorate of Public Works
Mailing Address: 9430 Jackson Loop
City: State: Zip: Fort Belvoir, Virginia 22060
Daytime Telephone:
E-mail Address:

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

_____ _____

Property Owner's Signature Date

Appendix B

NWI Map

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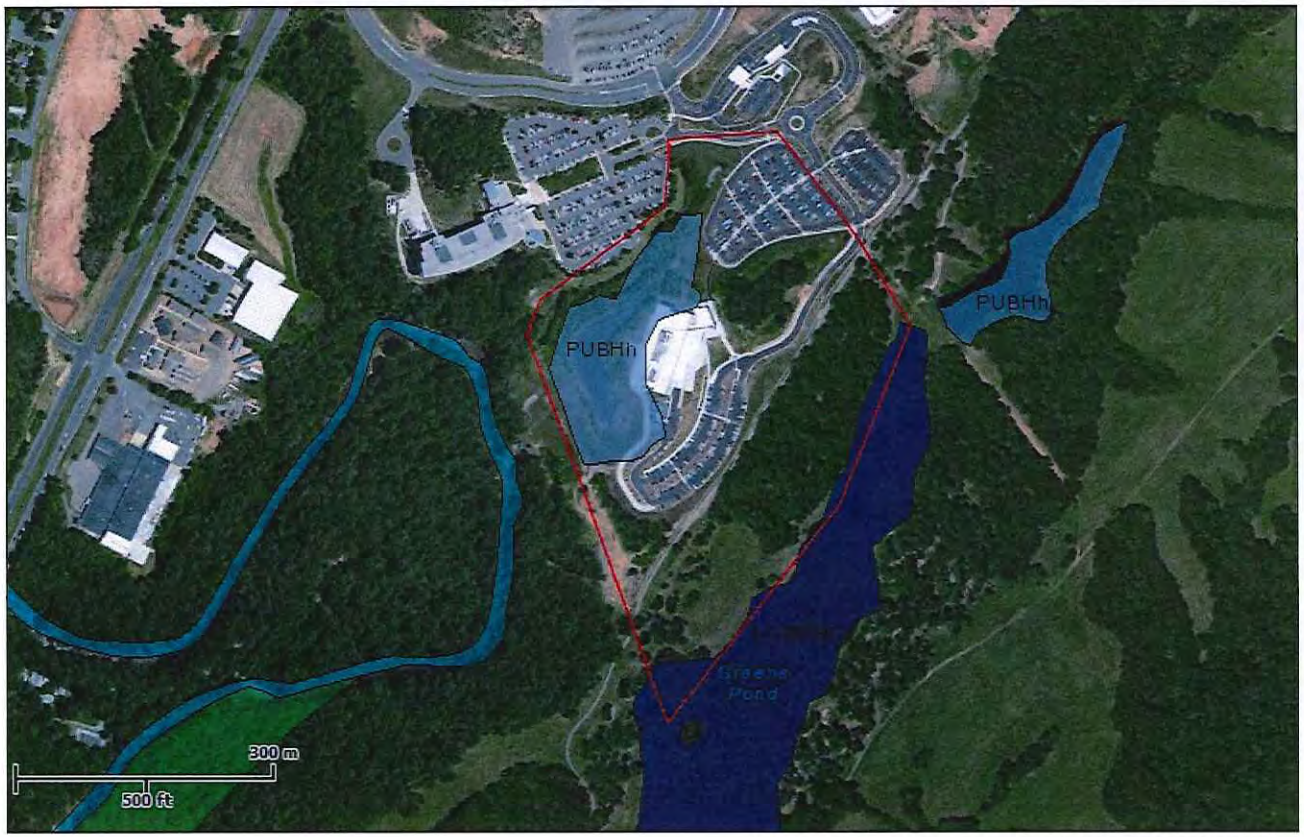
U.S. Fish and Wildlife Service

National Wetlands Inventory

Rivanna Station

Oct 21, 2013



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

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Appendix C

Soils Map

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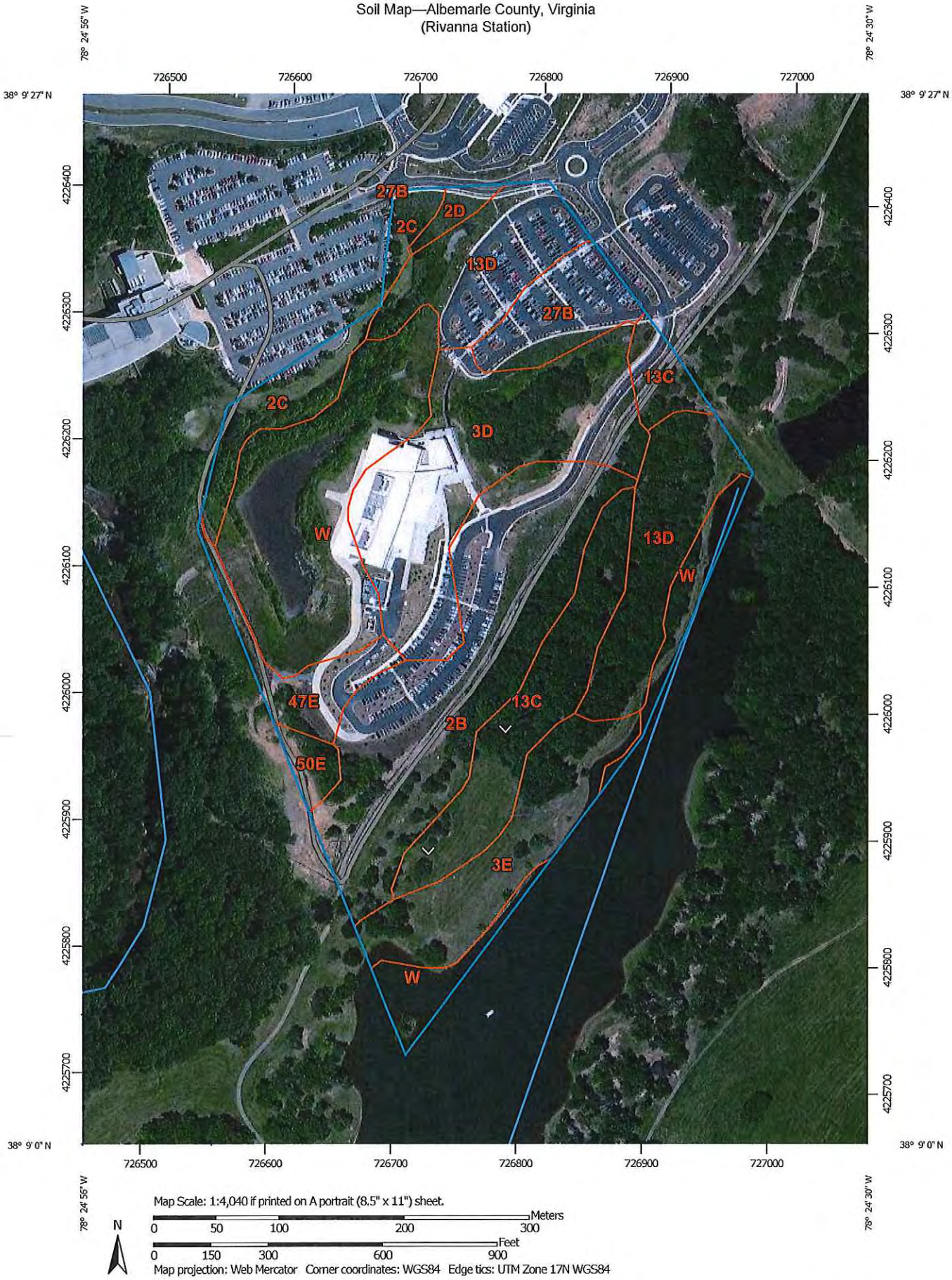
Soil Map—Albemarle County, Virginia
(Rivanna Station)



Map Scale: 1:4,040 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

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 1:15,800.

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: http://websoilsurvey.nrcs.usda.gov
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: Albemarle County, Virginia
Survey Area Data: Version 9, Jan 20, 2010

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

Date(s) aerial images were photographed: May 9, 2011—Jun 4, 2011

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

Albemarle County, Virginia (VA003)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
2B	Albemarle fine sandy loam, 2 to 7 percent slopes	8.2	18.9%
2C	Albemarle fine sandy loam, 7 to 15 percent slopes	2.0	4.7%
2D	Albemarle fine sandy loam, 15 to 25 percent slopes	0.4	0.8%
3D	Albemarle very stony fine sandy loam, 15 to 25 percent slopes	6.8	15.6%
3E	Albemarle very stony fine sandy loam, 25 to 45 percent slopes	3.5	8.2%
13C	Catoctin very stony silt loam, 7 to 15 percent slopes	4.4	10.1%
13D	Catoctin very stony silt loam, 15 to 25 percent slopes	6.1	14.1%
27B	Elioak loam, 2 to 7 percent slopes	1.8	4.2%
47E	Louisburg sandy loam, 25 to 45 percent slopes	1.4	3.2%
50E	Manor loam, 25 to 45 percent slopes	0.5	1.1%
W	Water	8.3	19.1%
Totals for Area of Interest		**43.3**	**100.0%**

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Appendix D

Data Sheets

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Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 1

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Project:	RIVANNA STATION		
Applicant:	U.S. ARMY GARRISON FORT BELVOIR	Section/Township/Range:	N/A
City/County:	ALBEMARLE	Subregion (LRR or MLRA):	MLRA 136 OF LRR P
State:	VIRGINIA	Site Latitude:	38°09'18.93"N
Investigator(s):	J. MANN & T. GELLES	Site Longitude:	78°24'45.77"W
Date:	10/1/2013	Soil Map Unit Name:	ALBEMARLE VERY STONY FINE SANDY LOAM, 15-25% SLOPES

Summary of Findings: **UPLAND IN SWALE;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	UPLAND
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	3

Hydrology Parameter:

Primary Indicators:

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other

Secondary Indicators:

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Acer negundo	Tree	FAC	5
Juniperus virginiana	Tree	FACU	5
Alnus serrulata	Sapling	OBL	15
Platanus occidentalis	Sapling	FACW	15
Rubus argutus	Shrub	FACU	20
Lonicera japonica	Herbaceous	FAC	30
Polystichum acrostichoides	Herbaceous	FACU	20

Non-Dominant Species	Stratum	IND	%
Boehmeria cylindrica	Herbaceous	FACW	15
Solidago altissima	Herbaceous	FACU	15
Toxicodendron radicans	Herbaceous	FAC	10

% Dominant species FAC or wetter: 57%
NOTE:(+/- in the indicators are not used in vegetation calculations.)

Prevalence Index: 3.0
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

		Matrix		Redox Features				
Depth (inches)	Horizon	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-3	A	10YR 4/3	100					SILTY CLAY LOAM
3-10	B1	10YR 4/4	65	7.5YR 4/6	35	C	M	SILTY CLAY LOAM
10-20	B2	2.5Y 5/3	75	7.5YR 4/6	25	C	M	SILTY CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils

- ___ 2cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other

Restrictive Layer (If Observed)
Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 2

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Project:	RIVANNA STATION		
Applicant:	U.S. ARMY GARRISON FORT BELVOIR	Section/Township/Range:	N/A
City/County:	ALBEMARLE	Subregion (LRR or MLRA):	MLRA 136 OF LRR P
State:	VIRGINIA	Site Latitude:	38°09'18.93"N
Investigator(s):	J. MANN & T. GELLES	Site Longitude:	78°24'45.77"W
Date:	10/1/2013	Soil Map Unit Name:	ALBEMARLE VERY STONY FINE SANDY LOAM, 15-25% SLOPES

Summary of Findings: **WETLAND NEAR FLAG A-37;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):	___	Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):	___	Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	3

Hydrology Parameter:

Primary Indicators:

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other

Secondary Indicators:

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Water Depths (inches):

Surface Water: ___
Water Table: 1
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Platanus occidentalis	Tree	FACW	15
Salix nigra	Tree	OBL	15
Acer negundo	Tree	FAC	10
Acer negundo	Sapling	FAC	20
Alnus serrulata	Sapling	OBL	10
Salix nigra	Sapling	OBL	10
Impatiens capensis	Herbaceous	FACW	20
Panicum dichotomiflorum	Herbaceous	FACW	20
Leersia oryzoides	Herbaceous	OBL	20
Microstegium vimineum	Herbaceous	FAC	15

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 100%

NOTE: *(+/- in the indicators are not used in vegetation calculations.)*

Prevalence Index: 1.9

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

		Matrix		Redox Features				
Depth (inches)	Horizon	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-1	A	10YR 3/2	100					SILTY CLAY LOAM
1-20	B1	2.5Y 4/1	80	7.5YR 4/6	20	C	M	FINE SANDY CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils

- ___ 2cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other

Restrictive Layer (If Observed)

Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 3

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Project:	RIVANNA STATION		
Applicant:	U.S. ARMY GARRISON FORT BELVOIR	Section/Township/Range:	N/A
City/County:	ALBEMARLE	Subregion (LRR or MLRA):	MLRA 136 OF LRR P
State:	VIRGINIA	Site Latitude:	38°09'18.93"N
Investigator(s):	T. GELLES	Site Longitude:	78°24'45.77"W
Date:	10/1/2013	Soil Map Unit Name:	ALBEMARLE VERY STONY FINE SANDY LOAM, 15-25% SLOPES

Summary of Findings: **STREAM BELOW FLAG A-37;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	5

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: _____
Water Table: _____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

ORDINARY HIGH WATER MARK PRESENT. STREAM 2' WIDE AND 0.5'-1' BANK HEIGHT.

Vegetation Parameter:

Dominant Species	Stratum	IND	%

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: _____
NOTE:*(+/- in the indicators are not used in vegetation calculations.)*

Prevalence Index: _____
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: ___
Prevalence Index is ≤ 3.0: ___
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

NO VEGETATION PRESENT IN CHANNEL.

Soil Parameter:

		Matrix		Redox Features				
Depth (inches)	Horizon	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Very Shallow Dark Surface (TF12)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Other
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (F21)	

Restrictive Layer (If Observed)
Type: _____
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

STREAMBED CONSISTS OF COBBLE, AND GRAVEL.

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 4

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Project:	RIVANNA STATION		
Applicant:	U.S. ARMY GARRISON FORT BELVOIR	Section/Township/Range:	N/A
City/County:	ALBEMARLE	Subregion (LRR or MLRA):	MLRA 136 OF LRR P
State:	VIRGINIA	Site Latitude:	38°09'18.93"N
Investigator(s):	T. GELLES	Site Longitude:	78°24'45.77"W
Date:	10/2/2013	Soil Map Unit Name:	ALBEMARLE VERY STONY FINE SANDY LOAM, 25-45% SLOPES

Summary of Findings: **UPLAND IN SWALE;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	UPLAND
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	5

Hydrology Parameter:

Primary Indicators:

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other

Secondary Indicators:

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus strobus	Tree	FACU	5
Fraxinus pennsylvanica	Tree	FACW	5
Setaria glauca	Herbaceous	FAC	15
Trifolium repens	Herbaceous	FACU	10

Non-Dominant Species	Stratum	IND	%
Lespedeza cuneata	Herbaceous	FACU	5

% Dominant species FAC or wetter: 50%
NOTE: *(+/- in the indicators are not used in vegetation calculations.)*

Prevalence Index: 3.4
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: ___
Prevalence Index is ≤ 3.0: ___
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

UNIDENTIFIED GRASS SPECIES PRESENT.

Soil Parameter:

		Matrix		Redox Features				
Depth (inches)	Horizon	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-3	A	10YR 4/4	100					LOAM
3-20	B1	10YR 5/6	95	7.5YR 4/6	5	C	M	LOAM

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils

- ___ 2cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other

Restrictive Layer (If Observed)
Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 5

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Project:	RIVANNA STATION		
Applicant:	U.S. ARMY GARRISON FORT BELVOIR	Section/Township/Range:	N/A
City/County:	ALBEMARLE	Subregion (LRR or MLRA):	MLRA 136 OF LRR P
State:	VIRGINIA	Site Latitude:	38°09'18.93"N
Investigator(s):	T. GELLES	Site Longitude:	78°24'45.77"W
Date:	10/2/2013	Soil Map Unit Name:	ALBEMARLE VERY STONY FINE SANDY LOAM, 25-45% SLOPES

Summary of Findings: **UPLAND IN SWALE;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	UPLAND
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	4

Hydrology Parameter:

Primary Indicators:

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other

Secondary Indicators:

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	15
Platanus occidentalis	Tree	FACW	10
Juniperus virginiana	Sapling	FACU	10
Fraxinus pennsylvanica	Sapling	FACW	10
Juniperus virginiana	Shrub	FACU	10
Betula nigra	Shrub	FACW	5
Quercus alba	Shrub	FACU	5
Microstegium vimineum	Herbaceous	FAC	40
Lonicera japonica	Herbaceous	FAC	15

Non-Dominant Species	Stratum	IND	%
Polystichum acrostichoides	Herbaceous	FACU	10
Solidago altissima	Herbaceous	FACU	10

% Dominant species FAC or wetter: 56%
NOTE:(+/- in the indicators are not used in vegetation calculations.)

Prevalence Index: 3.3
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ___
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

		Matrix		Redox Features				
Depth (inches)	Horizon	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-3	A	2.5Y 4/4	100					LOAM
3-14	B1	10YR 5/4	85	7.5YR 4/6	15	C	M	CLAY LOAM
14-20	B2	7.5YR 4/4	70	7.5YR 4/6	30	C	M	CLAY LOAM

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils

- ___ 2cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other

Restrictive Layer (If Observed)
Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 6

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Project:	RIVANNA STATION	Section/Township/Range:	N/A
Applicant:	U.S. ARMY GARRISON FORT BELVOIR	Subregion (LRR or MLRA):	MLRA 136 OF LRR P
City/County:	ALBEMARLE	Site Latitude:	38°09'18.93"N
State:	VIRGINIA	Site Longitude:	78°24'45.77"W
Investigator(s):	T. GELLES	Soil Map Unit Name:	CATOCTIN VERY STONY SILT LOAM, 15-25% SLOPES
Date:	10/2/2013		

Summary of Findings: **UPLAND IN SWALE;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	UPLAND
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	4

Hydrology Parameter:

Primary Indicators:

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other

Secondary Indicators:

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	20
Nyssa sylvatica	Tree	FAC	15
Quercus alba	Tree	FACU	15
Platanus occidentalis	Sapling	FACW	10
Quercus alba	Sapling	FACU	5
Juniperus virginiana	Sapling	FACU	5
Rubus argutus	Shrub	FACU	20
Fagus grandifolia	Shrub	FACU	5
Microstegium vimineum	Herbaceous	FAC	50

Non-Dominant Species	Stratum	IND	%
Polystichum acrostichoides	Herbaceous	FACU	10

% Dominant species FAC or wetter: 33%

Prevalence Index: 3.5

NOTE: *(+/- in the indicators are not used in vegetation calculations.)* *Calculated using all species present.*

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: ___
Prevalence Index is ≤ 3.0: ___
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

		Matrix		Redox Features				
Depth (inches)	Horizon	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-8	B1	10YR 4/3	100					LOAM
8-20	B2	10YR 4/6	90	7.5YR 5/6	10	C	M	LOAM

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils

- ___ 2cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other

Restrictive Layer (If Observed)
Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Appendix E

Delineation Map

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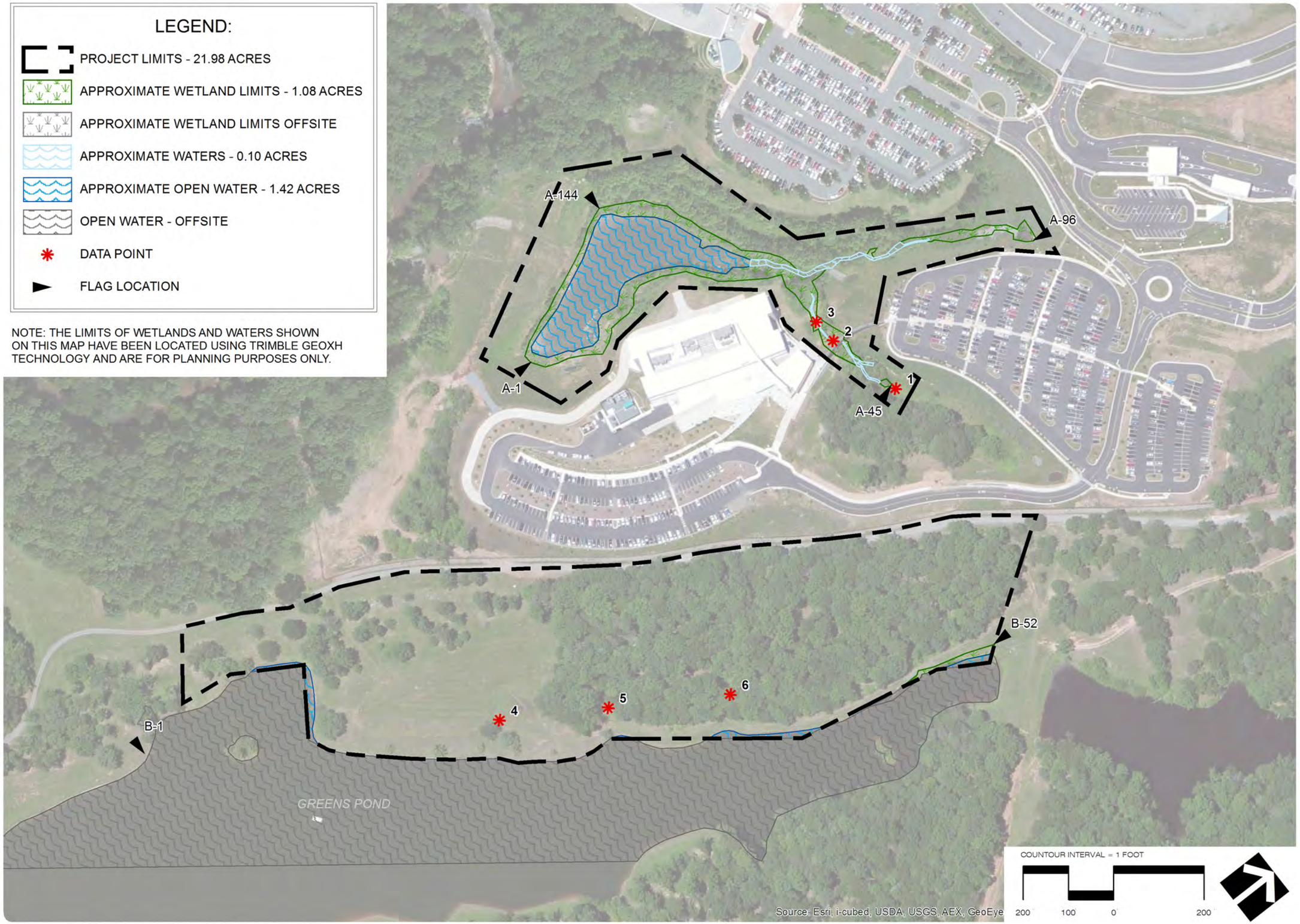
LEGEND:

- PROJECT LIMITS - 21.98 ACRES
- APPROXIMATE WETLAND LIMITS - 1.08 ACRES
- APPROXIMATE WETLAND LIMITS OFFSITE
- APPROXIMATE WATERS - 0.10 ACRES
- APPROXIMATE OPEN WATER - 1.42 ACRES
- OPEN WATER - OFFSITE
- DATA POINT
- FLAG LOCATION

NOTE: THE LIMITS OF WETLANDS AND WATERS SHOWN ON THIS MAP HAVE BEEN LOCATED USING TRIMBLE GEOXH TECHNOLOGY AND ARE FOR PLANNING PURPOSES ONLY.



5209 Center Street
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Richmond, Virginia 23225
(804) 267-3474

150 Riverside Parkway, Suite 301
Fredericksburg, Virginia 22406
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WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
Environmental Consultants

DELINEATION MAP
RIVANNA STATION
ALBEMARLE COUNTY, VIRGINIA

DATE: NOVEMBER 2013
JOB NUMBER: 5052
SCALE: 1 INCH = 200 FEET
SOURCE: BASE MAP PROVIDED BY ESRI

G:\PROJECTS\5000s\5000s\5052 Rivana Station\5052 Delineation.mxd

APPENDIX D

Biological Resources

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APPENDIX D
Biological Resources

The following documentation is provided to support the conclusions regarding presence of and impacts to fish, wildlife and plants.

- Attachment 1: Mussel Survey of the North Fork Rivanna River Bordering the Joint Use Intelligence Analysis Facility in Rivanna Station (JUIAF, Rivanna Station) in Albermarle County, Virginia. Final Report 10/8/2013.

- Attachment 2: United States Department of the Interior, Fish and Wildlife Service, Virginia Ecological Services Field Office. Official Species List, 10/30/2014.

- Attachment 3: Indiana Bat Habitat Survey, Rivanna Station, Albemarle County, VA, Williamsburg Environmental Group, Inc. 11/21/2013.

- Attachment 4: Natural Heritage Resources- Threatened and Endangered Species List, 3/23/2015.

- Attachment 5: IPaC Search (7/28/2015) and Species Conclusion Table.

- Attachment 6: A Summer Survey and Winter Habitat Assessment for the Federally Endangered Indiana Bat (Myotis sodalis) for a Proposed Construction Project at Rivanna Station, Albemarle County, Virginia, Apogee Environmental Consultants, Inc. June 2008.

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Attachment 1:

Mussel Survey of the North Fork Rivanna River Bordering the Joint Use Intelligence Analysis Facility in Rivanna Station (JUIAF, Rivanna Station) in Albermarle County, Virginia. Final Report

10/8/2013

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FINAL REPORT

Mussel Survey of the North Fork Rivanna River Bordering the Joint Use Intelligence Analysis Facility in Rivanna Station (JUIAF, Rivanna Station) in Albemarle County, Virginia

by

Brett J. K. Ostby
Daguna Consulting, LLC
334 Whites Mill Road
Abingdon, VA 24210
daguna.com

For

Williamsburg Environmental Group, Inc.
5209 Center Street
Williamsburg, VA 23188

October 8th, 2013

334 Whites Mill Road Abingdon, VA 24210 276-608-6508 DagunaConsulting@gmail.com

INTRODUCTION

Proposed development and expansion of the Joint Use Intelligence Analysis Facility in Rivanna Station (JUIAF, Rivanna Station) may impact the North Fork Rivanna River (NFRR). The JUIAF is located near Hollymead in Albemarle County, Virginia (Figures 1 and 2). The federally endangered James Spinymussel (*Pleurobema collina*) is known to inhabitant the NFRR. Recent work by Ostby and Angermeier (2012) found substantial populations of this species approximately 7 km upstream of JUIAF in Swift Run. In anticipation of requests for mussel surveys by the U. S. Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF), we conducted a 'Full Mussel' survey of the NFRR extending from 800 m downstream of the JUIAF southern boundary to 200 upstream of the western border. Additionally, we surveyed an 850 m reach extending downstream in the NFRR from the outfall of Green Pond. Green Pond is an impoundment located just north of the NFRR, which may be likewise impacted by development and expansion of the JUIAF. The primary objective of these surveys was to detect a population of *P. collina* present at a density ≥ 0.01 individuals per square meter. Secondarily, we documented the mollusk assemblage present.

METHODS

Over a 2 day sampling event (August 3rd and 6th, 2013) biologists with Daguna Consulting, Inc. (B. J. K. Ostby and J. Price) used mask and snorkel, water scopes and unaided visual inspection to search two reaches of the NFRR. The upstream reach (Survey 1) was approximately 1,500 m and the downstream reach was approximately 850 m (Survey 2). In the combined reaches, we covered at least 10, 000 m^2 of habitat. Survey efforts focused in riffle and run habitats and in flow refuges near banks

and around large woody debris and large substrates. These areas are typically inhabited by mollusks in Atlantic slope drainages. However, all stream reaches were surveyed unless the habitat was deemed "unsuitable" for mollusks based on the site visit. The "unsuitability" of any stream reach(es) as habitat for mollusks was fully documented in the report. Both banks of a stream reach and exposed shoals were surveyed for mussel shells and muskrat middens to obtain a complete list of species at the site. Surveys were conducted when water level and clarity were suitable to locate shells and live individuals with ease. Sufficient effort was expended to visually inspect all suitable habitat so we could state with reasonable confidence that endangered and/or threatened species do or do not occur in the river reach sampled. Geographical Information System (GIS) programs were used to georeference the boundaries of the survey, location of protected species, and location of other pertinent features.

RESULTS

Survey Conditions

Surveys were conducted under conditions of suitable flow and excellent clarity, with the bottom plainly visible from the water surface to all depths when turbulence was low (as deep as 1.5 m in pools). Flow at the USGS gage station on the North Fork Rivanna River approximately 2 km upstream (Earlysville, VA station 02032640) was 23 ft^3/sec (cfs) on August 3rd and 15 cfs on the 6th. This flow was near median for early August and on the descending limb of a high flow event occurring on August 2nd. Skies on August 3rd were overcast, but bright. Air temperature reached a high of 26°C. Skies were overcast with some drizzle in the morning of the 6th. By the end of the survey on the 6th, skies had

cleared and air temperature warmed to 25°C. Water temperature was estimated to be 24°C on both days.

Habitat Observations

The surveyed reaches of the NFRR flowed through a narrow valley approximately 10 – 20 m below the surrounding highlands. Land uses on surrounding ridges and highlands were a mix of forest, low-density residential and moderate-density urban. The reach was well shaded by steep forested hillsides. Both banks and riparian zones were forested to at least 40 m from each bank up hillsides, except near the start of a the downstream survey reach, where a narrow forest and shrub riparian zone buffered the stream from a fallow field on the floodplain. Banks were mostly stable; but there were places where erosion was ongoing and severe (Figure 3). Bankfull height was 2 to 3 m but could be as high as 5 m. Bankfull width was on average 24 m and no wider than 30 m at any point. Wetted width was usually 22 m, but constricted to 10 m were gravel bars had formed.

Both surveyed reaches were predominantly shallow run (mean depth of 0.3 m) with a sand dominated stream bottom (Figure 4). Mussels were easily detectable in these habitats, making searches of a large area highly efficient (Figure 5). Some pool habitats were observed (composing 10% of surveyed reach). Most occurred at river bends; one large pool was formed by a breached low head dam constructed of boulders located just upstream of the Green Pond outfall. Many pools had exposed bedrock bottoms. Riffles were frequent—total of 15 riffles were observed—but these habitats were usually limited in spatial extent (less than 100 m^2, Figure 6). Substrates in riffles were a mix of cobble and gravel moderately embedded by sand. Overall, the stream bottom was 50% sand, 20% cobble,

20% gravel, 5% boulder and 5% bedrock.

We also searched a 100 m reach of Herring Branch, which was a deeply incised channel. The surveyed reach of Herring Branch had a sand and exposed clay bottom. It was at most 30 cm deep and no wider than 1.5 m.

We did not search the outfall of Green Pond. This stream was at least 5°C colder than the NFRR and was likely anoxic. The stream bottom had a red tint and smelled of sulfur.

Species Observations

Over a 22 person-hour survey effort covering at least 10, 000 m^2 of the NFRR, we observed 1 live specimen of *P. collina*, 11 live *Strophitus undulatus* and 43 live *Villosa constricta*. No mussels were observed in Herring Branch. Most live mussels were observed within 2 m of either bank. The single live specimen of *P.* collina, however, was observed in the center of the channel at the downstream end of a riffle habitat (38.149540°, -78.421130°). This specimen was young, between 2-3 years old, and had spines on both valves (Figure 7). It was 24 mm long. A quarter of the mussel assemblage was composed of adults less than 4 years old and less than 35 mm. Mean (SD) length for *S. undulatus* was 50.4 (12.0) mm and for *V. constricta* was 40.1 (10.5). The aquatic snail *Leptoxis carinata* was common to abundant in riffles, but rare outside these habitats. Non-native *Corbicula fluminea* were common. Fish were common; we observed Roanoke darter, Johnny darter, black jumprock, northern hogsucker, a recently dead yellow bullhead, central stonerollers, fall fish and largemouth bass.

CONCLUSION

We found 1 live specimen of the federally endangered *P. collina* in the upstream reach approximately 550 m downstream of the JUIAF southern border. In general, live mussels were scattered and present at low density. This density and richness was similar to assemblage condition typical of many reaches we have surveyed in the Rivanna basin.

Using a sampling equation from Smith (2006), we calculated a *post hoc* detection probability. Given a conservative individual detection rate of 0.2 on a scale from 0 (where individuals are undetectable) to 1 (where all individuals are detected), we achieved a high probability (>0.99) to detect a species present at a density of 0.01 individuals per square meter and a moderately high probability (0.86) to detect species present at an extremely low density—0.001 individuals per square meter.

Recent work by Ostby and Angermeier (2012) found substantial populations of *P. collina* in Swift Run, which feeds the NFRR approximately 7 km upstream. That study also found that detection of *P. collina* in sand-dominated habitats can be problematic and that drawing conclusions about relative abundance of this species from qualitative and semi-quantitative sampling efforts are dubious at best. In fall 2011, they found a dozen *P. collina* in a cursory search of a sand-dominated run habitat in Swift Run (similar to those that compose the majority of the river in bordering JUIAF). In a more focused and intensive survey of the same reach of Swift Run in late spring of the following year, they found no evidence of *P. collina*. Thus, we can only conclude that reaches in proximity to JUIAF are occupied by *P. collina* and that there is evidence for recent recruitment of this species in the NFRR. Until we have a better understanding of how mussels migrate vertically in sand habitats or how or if they are

dispersed downstream by high flow events likely to disturb sand dominated habitat, we are limited to only approximations of occupancy.

LITERATURE CITED

Ostby, B. J. K. and P. L. Angermeier. 2012. Semi-quantitative Freshwater Mussel Surveys in the Wards Creek, Rocky Creek, Buck Mountain Creek and Swift Run Sub-watersheds of the Rivanna River. The Nature Conservancy, Charlottesville, VA.

Smith, D. R. 2006. Survey design for detecting rare mussels. Journal of the North American Benthological Society 25(3): 701 - 711.

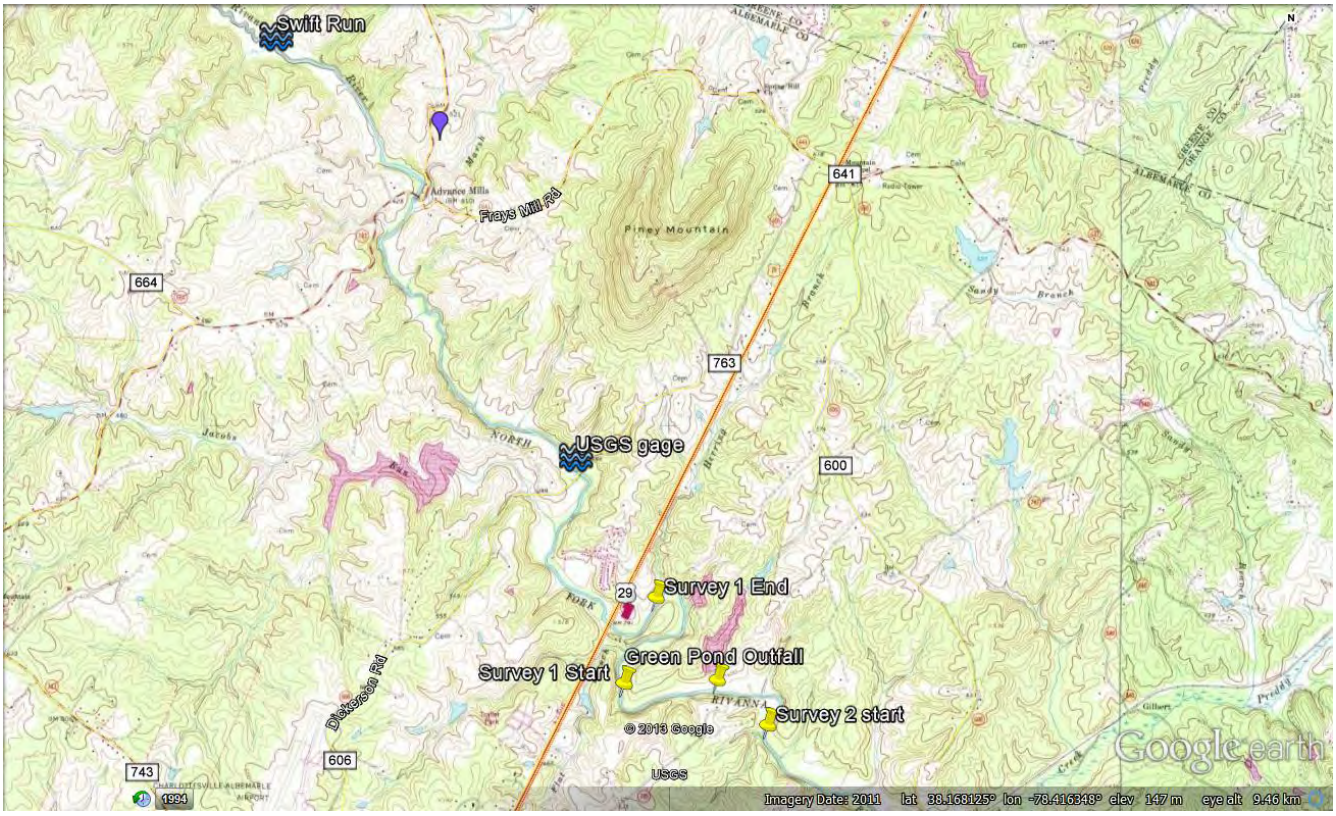

Figure 1. Topographic map depicting location of surveyed reach of the NFRR, location of USGS gage and the mouth of Swift Run.

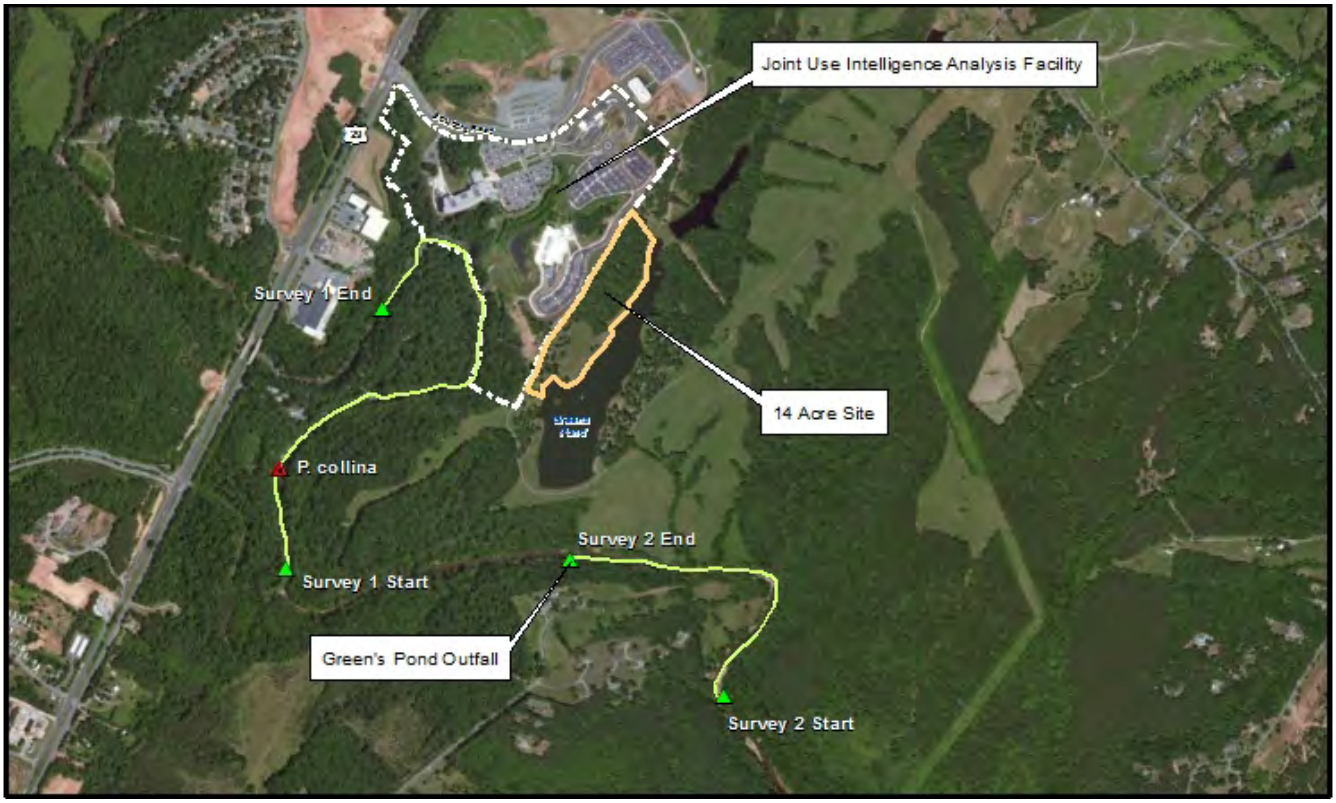

Figure 2. Detailed aerial view of the surveyed reach of the NFRR. We have also marked the JUIAF boundaries and the location of the live specimen of *P. collina*.

Figure 3. Undercut, eroding bank in the downstream NFRR reach.

Figure 4. Typical shallow sand-bottomed habitat observed in the surveyed reach of the NFRR.

Figure 5. Mussels at the stream botom in sand-dominated habitats were easily detected.

Figure 6. Riffle habitats were frequently observed, but were ususally limited in spatial extent.

Figure 7. We observed 1 live specimen of *P. collina*.

334 Whites Mill Road Abingdon, VA 24210 276-608-6508 DagunaConsulting@gmail.com

Site #: DAGUNA08032013.1

Stream: North Fork Rivanna River

County: Albemarle

Description: Two reaches of the North Fork Rivanna River: 1) from 850 m downstream of the Green Pond outfall to the Green Pond outfall; 2) from 800 m downstream to 200 m upstream of the JUIAF border. Both approximately 4 km NE of Hollymead, VA

Drainage: James River Basin: Rivanna River Basin

Projection: WGS 84

Survey 1 Start: 38.147122°, -78.420917°

Survey 1 End: 38.153369°, -78.417957°

Survey 2 Start: 38.144073°, -78.407638°

Survey 2 End: 38.147364°, -78.412300°

GPS Accuracy: <5 m

Survey Date: August 3rd and 6th, 2013

Survey Effort: 22 person-hours

Personnel: B. J. K. Ostby, J. Price

Mollusks Observed:

1 Live *Pleurobema collina*

11 Live *Strophitus undulatus*

43 Live *Villosa constricta*

Corbicula fluminea common

Leptoxis carinata common

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Attachment 2:

United States Department of the Interior,
Fish and Wildlife Service, Virginia Ecological Services Field Office.
Official Species List, 10/30/2014

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
PHONE: (804)693-6694 FAX: (804)693-9032
URL: www.fws.gov/northeast/virginiafield/

Consultation Tracking Number: 05E2VA00-2015-SLI-0220 October 30, 2014
Project Name: Rivanna Station

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

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

A Biological Assessment is required for construction projects (or other undertakings having

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

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Rivanna Station

Official Species List

Provided by:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Consultation Tracking Number: 05E2VA00-2015-SLI-0220
Project Type: Development
Project Description: Environmental Assessment for a Real Property Master Plan for Rivanna Station, a U.S. Army station under the command of Garrison Fort Belvoir. Current station encompasses 76 acres, and EA will evaluate on-site and off-site expansion options.

United States Department of Interior
Fish and Wildlife Service

Project name: Rivanna Station

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-78.4258525 38.1452573, -78.4119565 38.1682042, -78.3990819 38.1644319, -78.4117848 38.1406671, -78.4258525 38.1452573)))

Project Counties: Albemarle, VA

United States Department of Interior
Fish and Wildlife Service

Project name: Rivanna Station

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your 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. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Clams	Status	Has Critical Habitat	Condition(s)
James spinymussel *(Pleurobema collina)* Population: Entire	Endangered		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Attachment 3:

Indiana Bat Habitat Survey,
Rivanna Station, Albemarle County, VA,
Williamsburg Environmental Group, Inc. 11/21/2013

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WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Environmental Consultants

November 21, 2013

Ms. Barbara Kulvelis
HNTB Corporation
2900 South Quincy Street
Suite 200
Arlington, VA 22206

Re: Indiana Bat Habitat Survey
Rivanna Station, Albemarle County, Virginia
Latitude: 38°09'18.93"N Longitude: 78°24'45.77"W
WEG Project #5052

Dear Ms. Kulvelis:

Williamsburg Environmental Group, Inc. (WEG) conducted a habitat survey for natural heritage species on the above-referenced property in Charlottesville, Virginia. This survey was completed based on the results of a search of the U.S. Fish and Wildlife Service (USFWS) Information Planning and Conservation System (IPAC) database which indicated that the Indiana bat (*Myotis sodalis*) may be affected by the proposed project.

An initial search of the Virginia Department of Game and Inland Fisheries Fish and Wildlife Information Service (FWIS) database indicated that loggerhead shrike (*Lanius ludovicianus*) was present in the vicinity of the project. A subsequent search of the database did not list any confirmed records of the species within a 2 mile radius of the site. Therefore no habitat assessment was completed for this species.

This report presents the results of a habitat survey conducted by WEG on October 1, 2013 for Indiana bat on the approximate 14-acre site. The following sections provide a general description of the project site with an overview of the vegetative communities that are present. This section will be followed by descriptions of habitat factors for Indiana bat, the methods used during the site reviews and the results of the habitat survey.

Site Description

The approximate 14-acre site is located within the Rivanna River drainage basin in Albemarle County, Virginia (Figure 1). The site is situated east of Seminole Trail (Route 29) and south of Boulders Road and can be accessed via an unnamed dirt road off Boulders Road (Figure 2). The site is generally composed of a mix of open periodically maintained grassland with scattered immature to semi-mature trees and a large area of open semi-mature to mature mixed hardwood forest, with a general absence of large saplings. Scattered small saplings are present while the shrub and herbaceous layer ranges from dense to moderate coverage. The site is located on a generally southeast facing slope that terminates at Greens Pond, which appears to be permanently flooded. Trees within the canopy include sycamore

1011 Boulder Springs Drive, Suite 225 • Richmond, VA 23225 • Tel 804-267-3474 • Fax 804-267-3470

(*Platanus occidentalis*), white oak (*Quercus alba*), northern red oak (*Quercus rubra*), southern red oak (*Quercus falcata*), tulip poplar (*Liriodendron tulipifera*), mockernut hickory (*Carya tomentosa*), black gum (*Nyssa sylvatica*), loblolly pine (*Pinus taeda*), and white ash (*Fraxinus americana*). Shrub and small saplings are characterized by scattered canopy species, redbud (*Cercis canadensis*), flowering dogwood (*Cornus florida*), eastern red cedar (*Juniperus virginiana*), southern lowbush blueberry (*Vaccinium pallidum*), mountain laurel (*Kalmia latifolia*), and black haw (*Viburnum prunifolium*). Herbaceous growth is dominated by blackberry (*Rubus argutus*), Japanese stiltgrass (*Microstegium vimineum*), hog peanut (*Amphicarpaea bracteata*) and Christmas fern (*Polystichum acrostichoides*). Vine growth is characterized by Japanese honeysuckle (*Lonicera japonica*), which is dominant in many areas in the understory.

Indiana Bat

Species Natural History

Indiana bat is rare in Virginia and is only known or suspected in 11 counties in western Virginia (VaDGIF 2013). It is not known or suspected within Albemarle County. This species is listed as endangered in Virginia as well as federally.

The Indiana bat is a medium sized bat that hibernates within caves, or potentially abandoned mines, between October and April (USFWS 2007). The bats emerge from the hibernacula and migrate in April (VaDGIF 2013). While most males most commonly roost in wooded areas near the hibernacula in the summer, females migrate north to establish maternity colonies under the loose bark of dead trees, in riparian woodland, upland woodlots, or in hedgerows. Primary roosts typically receive direct sunlight for more than half of the day. Young emerge in late June or early July, are volant in 25-35 days, and forage with the mother until mid-August. During spring and fall, Indiana bats migrate between hibernacula and summer roosting sites. The bats migrate back to hibernation caves in August (USFWS 2007). Before hibernation, bats exhibit a swarming behavior and breed between August and October near hibernacula but roost outside of the cave (Dalton and Handley 1991). Foraging usually occurs in canopies of riparian forests, upland slopes and ridgetops, and forest and cropland edges, as well above water bodies. The bat feeds on a variety of soft-bodied flying insects.

Methods

A habitat assessment for the Indiana bat was conducted on the subject property on October 1, 2013 by WEG ecologists. The habitat assessment followed protocols established within the USFWS May 2013 Indiana Bat Summer Survey Guidelines. The survey was focused on the review and characterization of physical and vegetative properties on the site which may have habitat potential for this species.

Results

Based on the field evaluation of Indiana bat habitat parameters, there is potential for summer use of the property by Indiana bats. There is no potential for winter use as there are no known caves or potential underground roosts on the property and none were noted during the site visit. A significant presence of large trees with exfoliating bark was observed within the forested areas, composed mainly of white oak. In addition, scattered snags and cavities within dying and living trees were observed throughout the forest and are suitable for summer roosts. Suitable foraging habitat is present within the site and in adjacent offsite parcels. Migration corridors to offsite habitat are also present. Representative photographs are included as Attachment A. Copies of the Indiana Bat Habitat

Assessment Datasheets used in the assessment are included as Attachment B. Suitable habitat areas and photo locations are depicted on the attached Indiana Bat Habitat Survey Map.

Summary

The results of the habitat survey for the Indiana bat on the Rivanna Station project site revealed that there is appropriate summer habitat. Based on these results, WEG recommends that summer survey be conducted by a USFWS approved survey contact for Indiana bat within the appropriate survey window (May 15 – August 15). Adhering to time of year restrictions for any clearing or construction activities may alleviate the need for presence/absence surveys, upon approval from USFWS. This window is April 15 to September 15 for tree clearing activities and extends from April 1 to November 15 if a known maternal colony is within 5 miles of the project area.

WEG appreciates the opportunity to provide the above-referenced environmental services to HNTB Corporation for the Rivanna Station project. If you have any questions about the results of the habitat assessment, please contact me at 804-267-3474.

Sincerely,
Williamsburg Environmental Group, Inc.
By:

Sean M. Wender
Senior Ecologist

References Cited

Dalton, Virginia M. and Charles O. Handley, Jr. 1991. Indiana Bat (*Myotis sodalis*) pp. 569-570 in: Terwilliger, K. (ed.). *Virginia's Endangered Species*. McDonald and Woodward, Blacksburg, Virginia.

Gleason, H. A. and A. Cronquist. 1991. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada.* New York Botanical Garden, Bronx, New York.

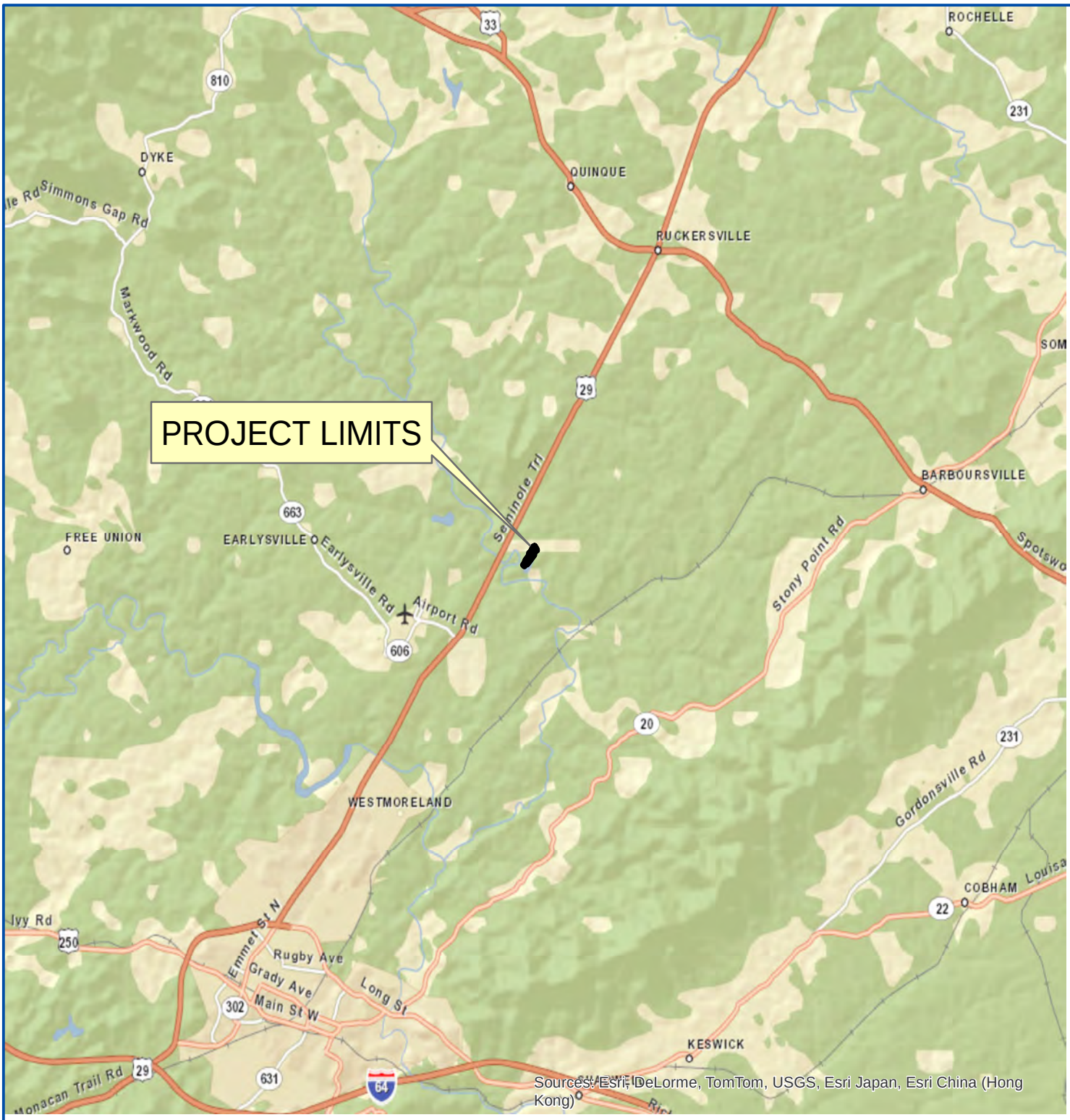
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: September 2013).

Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. *Manual of the Vascular Flora of the Carolinas.* University of North Carolina Press, Chapel Hill, N.C.

U.S. Fish and Wildlife Service. May 2013. 2013 Revised Range-Wide Indiana Bat Summer Survey Guidelines.

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) recovery plan. Great Lakes–Big Rivers Region – Region 3, U.S. Fish and Wildlife Service, Fort Snelling, Minnesota.

Virginia Department of Game and Inland Fisheries. 2013. The Virginia Fish and Wildlife Information Service. Accessed via Internet at http://www.dgif.state.va.us/wildlife/



0 1.25 2.5 5 Miles

SCALE: 1 INCH = 2.5 MILES

SOURCE: VIRGINIA ATLAS AND GAZETTEER
DELORME MAPPING CO. 1995

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

FIGURE 1-1

PROJECT VICINITY MAP
RIVANNA STATION

ALBEMARLE COUNTY, VA | OCTOBER 2013

G:\PROJECTS\5000s\5000s\5052 Rivana Station\8 x 11 PORTRAIT VICINITY MAP.mxd

0 1,000 2,000 4,000 Feet

SCALE: 1 INCH = 2,000 FEET

LATITUDE: 38 09'13.91"N
LONGITUDE: 78 24'40.66"W

SOURCE: USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP, EARLYSVILLE. VA, QUADRANGLE, 1965 (REV 1984)

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

FIGURE 1-2

PROJECT LOCATION MAP
RIVANNA STATION

ALBEMARLE COUNTY, VA | OCTOBER 2013

G:\PROJECTS\5000s\5000s\5052 Rivana Station\8 x 11 PORTRAIT LOCATION MAP.mxd

Appendix A

Representative Photographs

Photograph 1 – View North: Representative view of scattered trees within periodically maintained grassland.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 2 – View West: Representative view of cluster of trees within periodically maintained grassland.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 3 – View North: Representative view of mixed hardwood forest.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 4 – View South**:** Representative view of mixed hardwood forest.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 5 – View North: Representative view of mixed hardwood forest edge along gravel road.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 6 – View South: Representative view of mixed forest edge along Greens Pond.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 7 – Representative view of exfoliating bark on white oak.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 8 – Representative view of moderately sized cavity within a live tree.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Photograph 9 – Representative view of snag with small cavities, likely from woodpeckers.

Photographs taken by: Sean Wender
Williamsburg Environmental Group, Inc.
October 2013
WEG Project # 5052

Appendix B

Indiana Bat Habitat Assessment Datasheets

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

INDIANA BAT HABITAT ASSESSMENT DATASHEET

Project Name: Rivanna Station Date: 10/1/13

Township/Range/Section:

Lat Long/UTM/ Zone: Surveyor: Sean Wender

Brief Project Description

14-acre undeveloped parcel adjacent to Rivanna Station and Greens Pond. Area of proposed expansion.

Project Area

	Total Acres	Forest Acres	Open Acres
Project	14		

	Completely cleared	Partially cleared (will leave trees)	Preserve acres, no clearing
Proposed Tree Removal (ac)			

Vegetation Cover Types

Pre-Project	Post-Project
Mixed Hardwood Forest Oaks, Poplar, Pine, Hickory Sycamore, Ash Open Periodically Maintained Field with Scattered Trees	

Landscape within 5 mile radius

Flight corridors to other forested areas?

Linear Woodland Openings, Rivanna River, Utility Easements

Describe Adjacent Properties (e.g. forested, grassland, commercial or residencial development, water sources)

Commercial, Forest, Grassland

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?

[11]

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area
Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
A single sheet can be used for multiple sample sites if habitat is the same

Sample Site Description
Sample Site No.(s): 1

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe existing condition of water sources: Permanent open water on east boundary. Rivanna river in close proximity.
Pools/Ponds (# and size)	1 ~ 20 acre	Open and accessible to bats? Yes		
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81=100%
Dominant Species of Mature Trees	Quercus alba Quercus rubra	Carya tomentosa Liriodendron tulipfera		
% Trees w/ Exfoliating Bark	10	10	10	
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
	25	55	20	
No. of Suitable Snags		~ 10		

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? Yes

Additional Comments:

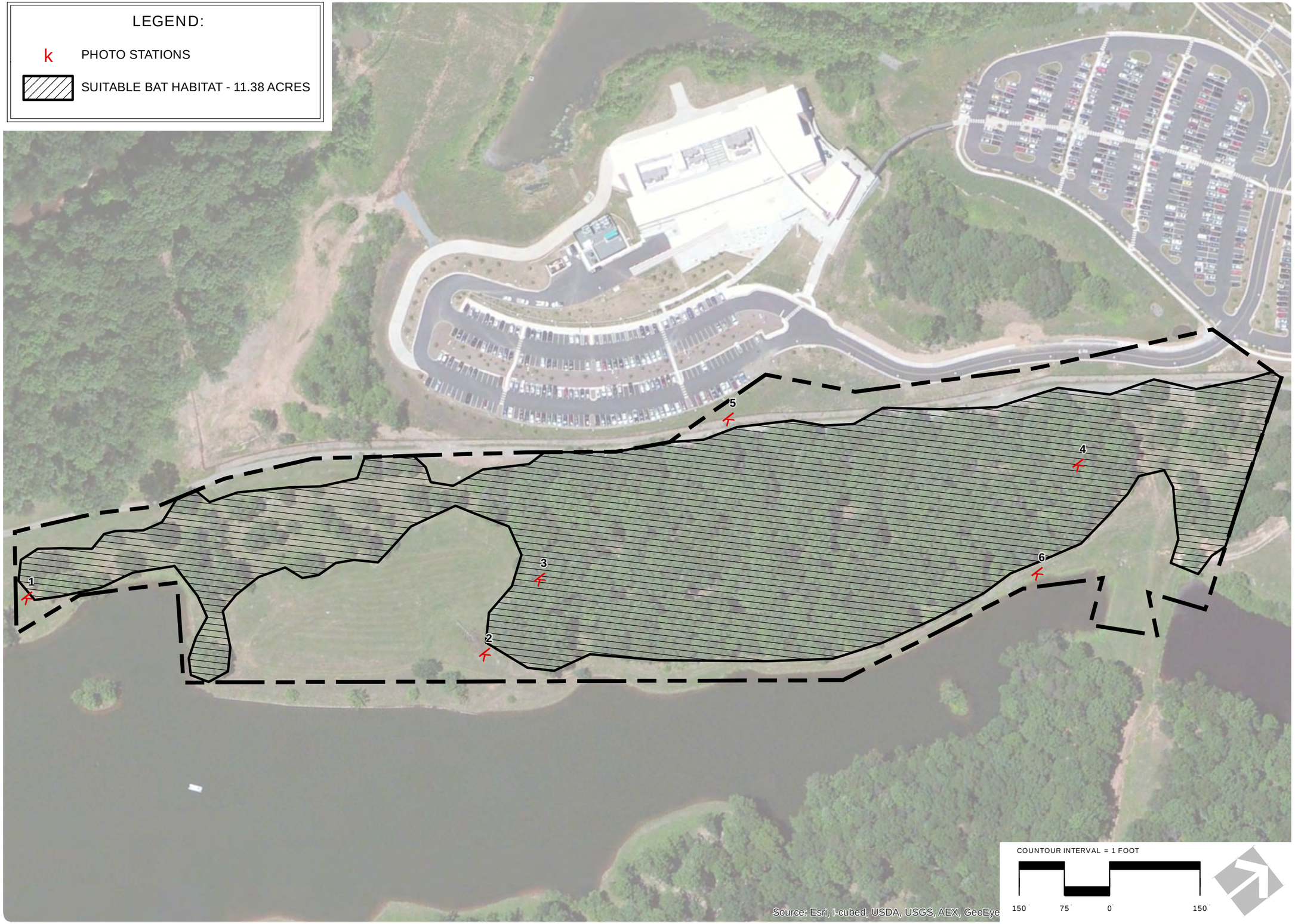
Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

[12]

Appendix C

Indiana Bat Habitat Survey Map



5209 Center Street
Williamsburg, Virginia 23188
(757) 220-6869

1011 Boulder Springs Drive, Suite 225
Richmond, Virginia 23225
(804) 267-3474

150 Riverside Parkway, Suite 301
Fredericksburg, Virginia 22406
(540) 785-5544

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
Environmental Consultants

HABITAT MAP
RIVANNA STATION

ALBEMARLE COUNTY, VA

DATE: OCTOBER 2013
JOB NUMBER: 5052
SCALE: 1 INCH = 200 FEET
SOURCE: BASE MAP PROVIDED BY ESRI

G:\PROJECTS\5000s\5000s\5052 Rivana Station\5052 Habitat.mxd

Attachment 4:

Natural Heritage Resources –
Threatened and Endangered Species List, 3/23/2015

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Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Federal Legal Status: Select All

State Legal Status: Select All

County: Albemarle

Watershed (8 digit HUC): 02080204 - Rivanna River

Subwatershed (12 digit HUC): JR11 - North Fork Rivanna River-Jacobs Run

Search Run: 3/23/2015 17:23:30 PM

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences
Albemarle						
Rivanna						
North Fork Rivanna River-Jacobs Run						
BIVALVIA (MUSSELS)						
Atlantic Pigtoe	Fusconaia	G2	S2	SOC	LT	27

Common Name/Natural Community	Scientific Name	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences
James Spinymussel	masoni Pleurobema collina	G1	S1	LE	LE	30

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

Attachment 5:

IPaC Search (7/28/2015)
and Species Conclusion Table.

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Species Conclusions Table

Project Name: Rivanna Station Real Property Master Plan

Date: 12/21/15

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
James Spinymussel (*Pleurobema collina*)	Species present	May affect	A Mussel Survey on the North Fork Rivanna River Bordering Rivanna Station was completed in October of 2013. One live specimen of *Pleurobema collina* was found. It was concluded that reaches in proximity to Rivanna Station are occupied by *Pleurobema collina* and that there is evidence for recent recruitment of this species in the North Fork Rivanna River.
Northern Long-eared Bat *(Myotis septentrionalis)*	Suitable habitat present	Not likely to adversely affect	An Indiana bat (*Myotis sodalist*) habitat survey was conducted in November of 2013. As a result, it was determined that there is appropriate summer habitat on Rivanna Station. The northern long-eared bat is found in similar habitats to the Indiana Bat, and is known to be even less selective of habitat. Therefore, the area surveyed for the Indiana Bat also contains summer habitat suitable for the northern long-eared bat. However, Rivanna Station will adhere to time of year restrictions for tree clearing.
Critical Habitat	No critical habitat is present		Rivanna Station is in Albemarle County; not a county where there is federally designated critical habitat.
Bald eagle	Unlikely to disturb nesting bald eagles	No Eagle Act permit required	Project could include blasting
Bald eagle	Does not intersect with an eagle concentration area	No Eagle Act permit required	Project could include blasting

U.S. Fish & Wildlife Service

Rivanna Station Real Property Master Plan

IPaC Trust Resource Report

Generated July 28, 2015 10:11 AM MDT

US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

Rivanna Station Real Property Master Plan

PROJECT CODE

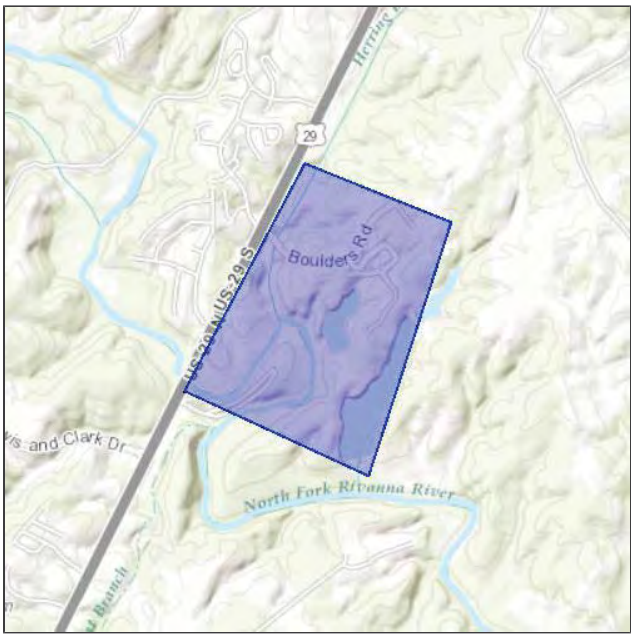
FXQJP-RK6RJ-HMVKZ-URNQ4-NIKAWI

LOCATION

Albemarle County, Virginia

DESCRIPTION

No description provided



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section.

Clams

James Spinymussel Pleurobema collina **Endangered**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=F025

Mammals

Northern Long-eared Bat Myotis septentrionalis **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

Bald Eagle Haliaeetus leucocephalus **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus **Bird of conservation concern**
Season: Breeding

Cerulean Warbler Dendroica cerulea **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09I

Fox Sparrow Passerella iliaca **Bird of conservation concern**
Season: Wintering

Kentucky Warbler Oporornis formosus **Bird of conservation concern**
Season: Breeding

Loggerhead Shrike Lanius ludovicianus **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FY

Pied-billed Grebe Podilymbus podiceps **Bird of conservation concern**
Season: Breeding

Prairie Warbler Dendroica discolor **Bird of conservation concern**
Season: Breeding

Prothonotary Warbler Protonotaria citrea **Bird of conservation concern**
Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus **Bird of conservation concern**
Year-round

Rusty Blackbird Euphagus carolinus **Bird of conservation concern**
Season: Wintering

Short-eared Owl Asio flammeus **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Wood Thrush Hylocichla mustelina **Bird of conservation concern**
Season: Breeding

Worm Eating Warbler Helmitheros vermivorum **Bird of conservation concern**

Season: Breeding

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

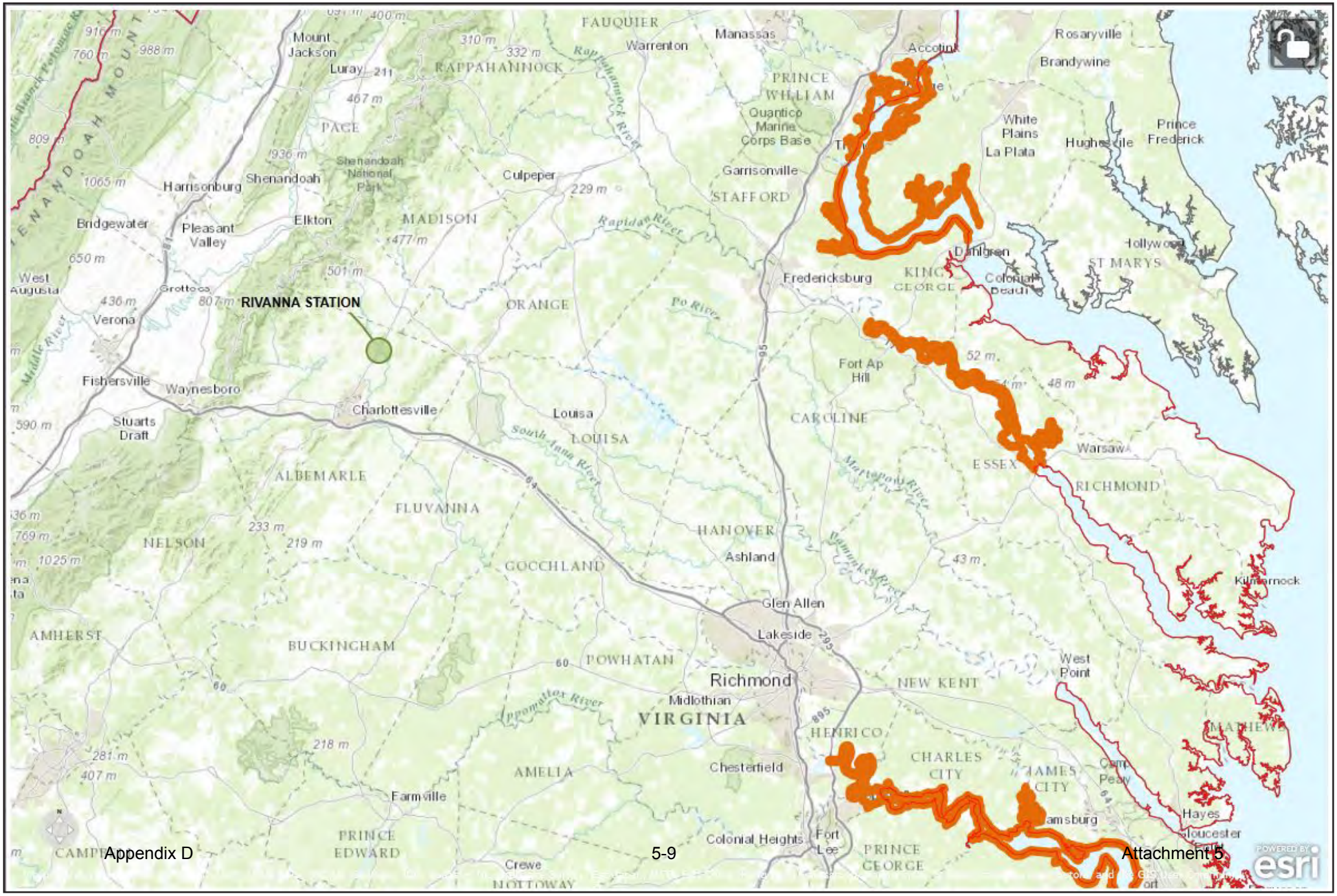
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

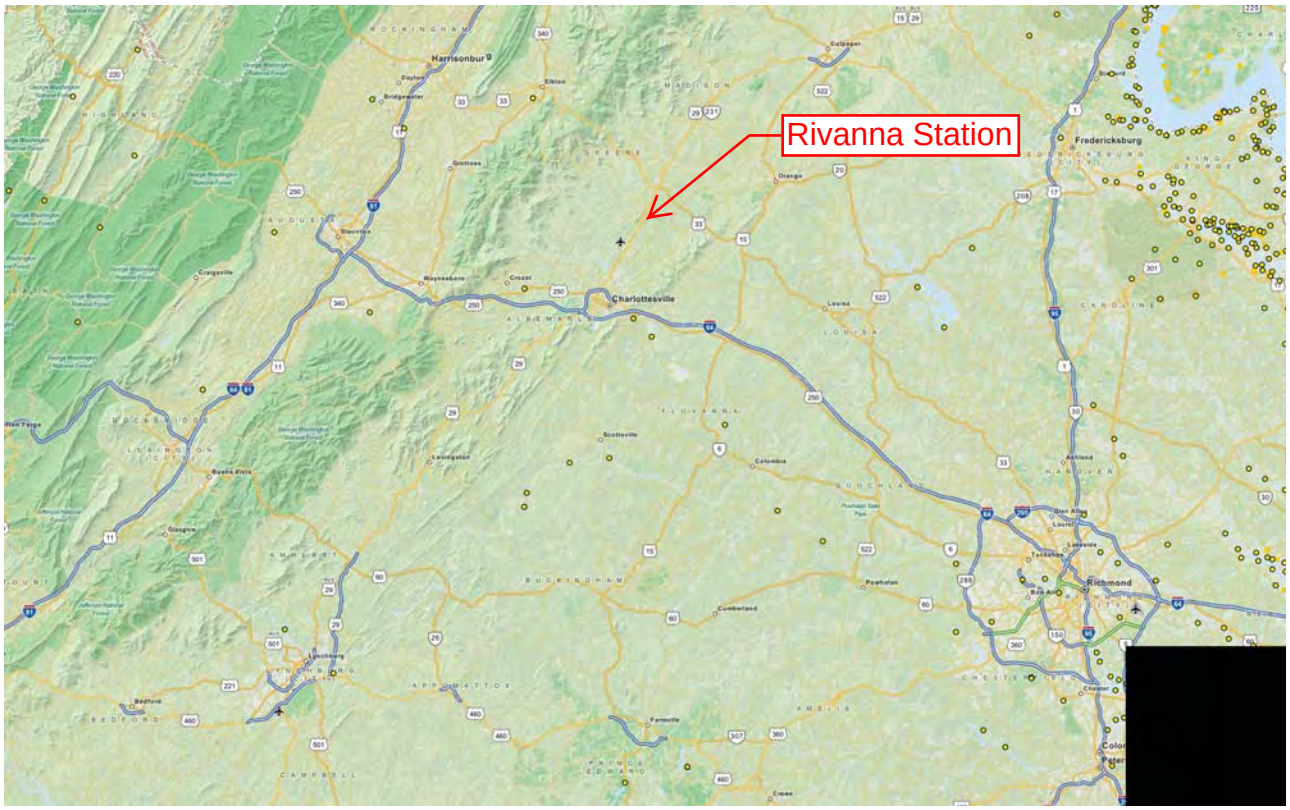
Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

USFWS Bald Eagle Concentration Areas



CCB Mapping Portal



Layers: Eagle Roosts, Eagle Roost Polygons, Eagle Roost Buffers, VA Eagle Nest Locator

Map Center [longitude, latitude]: [-78.37783813476562, 37.982633623356946]

Map Link:
http://www.ccbbirds.org/maps/#layer=Eagle+Roosts&layer=Eagle+Roost+Polygons&layer=Eagle+Roost+Buffers&layer=VA+Eagle+Nest+Locator&zoom=10&lat=37.982633623356946&lng=-78.37783813476562&legend=legend_tab_7c321b7e-e523-11e4-a-a0-0e0c41326911&base=Street+Map+%28MapQuest%29

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Attachment 6:

A Summer Survey and Winter Habitat Assessment for the Federally Endangered Indiana Bat (Myotis sodalis) for a Proposed Construction Project at Rivanna Station, Albemarle County, Virginia, Apogee Environmental Consultants, Inc. June 2008.

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A SUMMER SURVEY AND WINTER HABITAT ASSESSMENT FOR THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) FOR A PROPOSED CONSTRUCTION PROJECT AT RIVANNA STATION, ALBEMARLE COUNTY, VIRGINIA (USFWS PROJECT NO. 51411-2007-TA0502)

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Apogee Project # 07-253.00

JUNE 2008

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1.0 INTRODUCTION

The Defense Intelligence Agency (DIA) and U.S. Army Garrison Fort Belvoir plan to do a number of construction activities on the Rivanna Station in Albemarle County, Virginia. These construction projects include a JUIAF [office building] with associated infrastructure and parking lots, an ACP/VCC [guard gate and visitor center] and a two-lane extension that would connect to Boulders Road. There are also plans to construct a separate RDF [mail and storage building], an addition to the existing NGIC building (Nicholson Building), and a multi-storied parking garage to help relieve the current and projected overcrowding at NGIC. Based upon these proposed constructions (and the proposed associated disturbances to forested habitat) the US Fish and Wildlife Service (USFWS) has asked that a survey be conducted to assess the status of the federally endangered Indiana bat (Myotis sodalis) at Rivanna Station.

Apogee Environmental Consultants, Inc. (Apogee) was contracted by Paciulli, Simmons & Associates, Ltd. to assess the status of the Indiana bat at Rivanna Station (Figure 1). This Indiana bat report is hereby submitted on behalf of U.S. Army Garrison Fort Belvoir and Paciulli, Simmons & Associates, Ltd. to fulfill the requirements set forth by USFWS.

2.0 SITE LOCATION

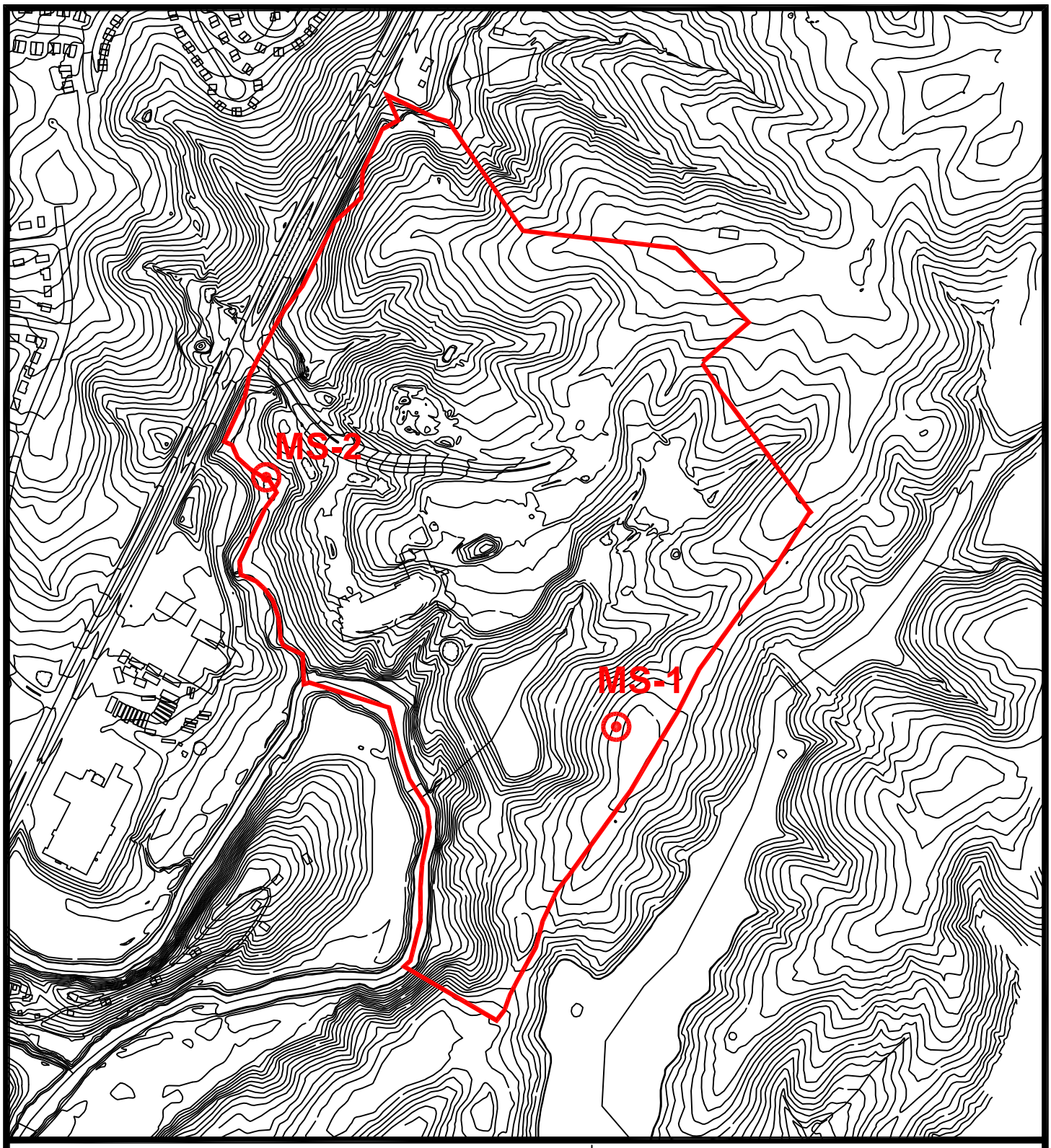
Rivanna Station is a sub-installation of U.S. Army Garrison Fort Belvoir (it is not physically located with Fort Belvoir but is under Fort Belvoir administrative control). The site is located south of Boulders Road and east of US Route 29. Rivanna Station covers approximately 125 acres is located adjacent to the North Fork Rivanna River in Albemarle County, Virginia (Figure 1).

2.1 Geography and Geology

The project area lies within the foothills portion of the Piedmont Physiographic Province. The topography of the area is characterized by rolling hills to relatively steep stream valleys. Geologic strata within this area consist of hard, crystalline igneous and metamorphic formations.

2.2 Forest Community Composition

The forest in this area is on the border of the Oak-Chestnut and Oak-Pine forest regions (Braun 1950). Historically the upper slopes and ridgetops of the Oak-Chestnut Region were dominated by oak (Quercus sp.) and American chestnut



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U.S. ARMY GARRISON FORT BELVOIR

Figure 1. Proposed project area at Rivanna Station, Albemarle County, Virginia (USFWS Project No. 51411-2007-TA0502).

SCALE:	1"=600'	6/23/08

(Castanea dentata). However, the American chestnut component of the forest was decimated by a blight during the early to mid- 1900's. Today various oak and tulip tree (Liriodendron tulipifera) communities dominate climax sites. Oaks and hickories (Carya sp.) are the dominants in the Oak-Pine Region. Sourwood (Oxydendron arboreum) and sweet gum (Liquidambar styraciflua) are common associates of these two dominants.

INDIANA BAT INFORMATION

2.3 Species Status

The Indiana bat was listed as a federally endangered species on 11 March 1967 under the Endangered Species Preservation Act (ESPA). However, protection was not granted until the passage of the Endangered Species Act (ESA) in 1973 (U.S. Congress 1973). A recovery plan, outlining habitat requirements, critical habitat, potential causes for the bats decline, and recovery objectives, was published by the USFWS in 1983. In 1996, the Indiana bat Recovery Team released a Technical Draft Indiana Bat Recovery Plan. One year latter a preliminary version entitled "Agency Draft of the Indiana Bat Recovery Plan" was released. In 1999, an agency draft entitled "Indiana Bat Revised Recovery Plan" was distributed for comments. This document was re-circulated in 2002 for further comments and is currently being prepared. Critical habitat was designated for the species on 24 September 1976, and included 11 caves and 2 abandoned mines in Illinois, Indiana, Kentucky, Missouri, Tennessee, and West Virginia. Critical summer habitat has not been designated at this time.

The population of Indiana bats has declined across its range since the late 1950's. Although the exact reason for the decline is not known, there are many factors that are considered to have contributed. Of these factors, the increased disturbance to roosting caves (commercialization, spelunkers, vandalism, flooding, and collapsing), pesticide poisoning, and loss of summer habitat are the most often cited (USFWS 2002).

2.4 Distribution

The Indiana bat is a migratory species found throughout much of the eastern half of the United States from Oklahoma, Iowa, and Wisconsin, east to Vermont and south to northwestern Florida (Barbour and Davis 1969, USFWS 2002). During winter, the Indiana bat primarily hibernates in caves and abandoned mines (referred to as hibernacula). Within the hibernaculum Indiana bats congregate in tightly packed clusters and are easily counted. Thus, winter census data is the most reliable method for documenting population trends range-wide. As such, winter distribution of the Indiana bat is well documented. During the summer maternity season they are much more scattered and difficult to locate. As a result, there is much less known about summer distribution. Even less is known about the migratory habits of the Indiana bat.

2.4.1 Winter Distribution

The current population of Indiana bats is approximately 382,350 individuals (USFWS 2002). The eight largest "Priority One" hibernacula (recorded population >30,000 since 1960) contain 198,000 Indiana bats (51.7%). The 69 hibernacula classified as "Priority Two" hibernacula (recorded population >500 but <30,000 bats since 1960) contain 171,000 Indiana bats (44.7%). The remaining 14,000 Indiana bats (3.6%) occupy the outstanding 259 known "Priority Three" hibernacula (<500 since 1960). The current population is less than half the estimated population of 1960 (USFWS 2002), even though there were fewer known hibernacula at that time.

The winter range of the Indiana bat is closely associated with the well-developed limestone cave systems of Indiana, Kentucky, and Missouri. Eight Priority 1 hibernacula are found within these three states, accounting for 85% of the total winter population (USFWS 2002). Other states, including Alabama, Arkansas, Georgia, Illinois, Maryland, Mississippi, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Vermont, Virginia, and West Virginia, have smaller hibernacula. Although the winter range is large, the known population of the species has been found in only 336 hibernacula in an area with tens of thousands of caves and mines.

2.4.2 Summer Distribution

During summer, reproductive female Indiana bats typically form maternity colonies in trees. Most records of reproductively active females come from the Midwest – southern Iowa, northern Missouri, northern Illinois, northern Indiana, southern Michigan, and western Ohio (Gardner and Cook 2002). This area is considered to be the core summer range for the species. This glaciated region is mostly fragmented, and 76% of the land in counties containing reproductive records is non-forested (Gardner and Cook 2002). In this agriculturally dominated landscape, small bottomland and upland forested tracts

(predominantly oak-hickory forests), and riparian/bottomland forest (elm-ash-cottonwood forests) are nearly all that remain. The unglaciated portion of the lower Midwest and the eastern and southern portions of the species' range appear to have fewer maternity colonies per unit area of forest than does the upper Midwest (USFWS 2002).

2.5 Reproduction

Indiana bats, like most bats of the eastern United States, mate in autumn. Mate selection is thought to take place during "Swarming Activity" near the entrance of caves. Once a mating pair is formed the individuals enter the cave and breed while hanging from the ceiling (Barbour and Davis 1969). After copulation is complete the female enters the hibernaculum for the winter, while the male returns to the swarming activity.

Once inseminated, female Indiana bats retain the sperm in the uterus and oviduct (Neuweiler 2000). Ovulation and fertilization are delayed throughout the winter hibernation period (October-April) and do not occur until about 1-3 days after arousal from hibernation (Barbour and Davis 1969, Neuweiler 2000). Females give birth to a single young in late May to early July. Indiana bats appear to perform an asynchronous birthing strategy, having newborn to almost adult size young among the same colony (Belwood 2002). Juveniles become volant within 3-4 weeks and may mate their first autumn (USFWS 2002).

2.6 Food Habits

Indiana bats feed on a variety of soft-bodied flying insects. Food habits studies conducted throughout the species range consistently reveal that small moths are important prey items although components of the diet vary depending on habitat, region, season, and sex or age of the bat. The four orders of insects that contribute most to the diet are Coleoptera, Diptera, Lepidoptera, and Trichoptera (Belwood 1979, Brack 1983, Brack and LaVal 1985, Lee 1993, Kiser and Elliot 1996, Kurta and Whitaker 1998, Murray and Kurta 2002). In the southern region of the summer range, terrestrial-based prey (moths and beetles) are more common. This may be influenced by Indiana bats in this area predominantly foraging near treetops (Brack and LaVal 1985). In the northern region where foraging areas are more limited to riparian zones, aquatic-based prey (flies and caddisflies) dominant the diet (USFWS 2002).

The abundant occurrence of one particular insect, for brief, unpredictable periods, corresponding with the sudden hatch or mating swarms has lead some researchers to label the Indiana bat as a "selective opportunist" feeder (Brack and LaVal 1985, Murray and Kurta 2002). For example, large amounts of Hymenopterans (winged ants) show up in the diet of the Indiana bat when they are readily abundant (USFWS 2002).

2.7 Habitat

The Indiana bat is an annual migratory species and thus uses a variety of different habitats during the year. During summer they predominantly roost in trees and in winter they use cave like structures.

2.7.1 Winter Habitat

Indiana bats generally hibernate between mid-November to mid-April and require specific microclimate conditions (temperature and humidity) during this time. Consequently less than one percent of the caves and mines within the range of the Indiana bat offer suitable hibernating conditions (USFWS 2002, Gardner et al. 1991). In suitable hibernacula Indiana bats form dense clusters on the ceilings that may exceed 300-individuals/square foot. The clusters are not sexually segregated and smaller groups or single bats may also occur (Mumford and Whitaker 1982).

Limestone caves are the primary shelter used by Indiana bats for winter hibernacula, although abandoned mines will also be used. Indiana bats have also been found hibernating in a tunnel, and even a hydroelectric dam (USFWS 2002). The best hibernacula consist of multiple entrances that permit “chimney-effect” airflow. In winter, cold, outside air enters one or more lower entrances, where it is warmed, rises, and eventually exits the cave through additional entrances that are at least a few feet higher in elevation (USFWS 2002). Early studies suggested that cave passages with mid-winter temperatures of 39-46 F (4-8 C) are preferred; however, recent examination of long-term data suggests that a slightly lower range of 37-43 F (3-6 C) may be favorable (Tuttle and Kennedy 2002).

2.7.2 Spring and Autumn

After hibernation, but before the bats exit the hibernacula, bats move to activity roosts. These staging areas tend to be warmer and closer to the entrance than the hibernation sites. Little is known about spring staging, but bats gradually increase their level of activity. A relatively small amount of breeding does occur at this time, possibly as a result of late arriving females or unsuccessful sperm storage. Upon leaving the hibernacula area, most female bats will migrate several hundred miles to form maternity colonies, while some male and non-reproductive females will remain near the hibernacula.

The majority of Indiana bat breeding occurs during the autumn swarming period (September – October). This activity occurs after the bats have returned from summer habitat and before hibernation begins. During autumn swarming, bats visit hibernacula at night, but may continue to use trees as day-roosts (Gumbert 2001, Kiser and Elliott 1996, Hobson and Holland 1995). As the season progresses, more bats move into the hibernacula. By late September many

female Indiana bats have copulated and have begun hibernation while males continue to swarm until late October or early December (Gumbert 2001, Kiser and Elliott 1996, Cope and Humphrey 1977).

2.7.3 Summer (Maternity Colony Habitat)

Indiana bat females normally emerge from the hibernacula prior to males in spring, traveling varying distances and direction to summer maternity roosts. Males generally do not travel as far as the females, are more solitary, and are more likely to remain in close proximity to the hibernacula.

Early research indicated that flood-plain and riparian forest to be the primary roosting and foraging habitats used by the Indiana bat (Humphrey et al. 1977). Although these forest types undoubtedly are important, upland forest and non-riparian forested wetlands subsequently have been shown to be complimentary habitats as well (Kurta et al. 1993, 1996, Callahan et al. 1997, Palmer-Ball and Drozda 2000).

Indiana bats primarily forage in upland and floodplain forests (Humphrey et al. 1977, LaVal et al. 1977, LaVal and LaVal 1980, Gardner et al. 1991), with activities generally located near the foliage of trees (Humphrey et al. 1977, Brack 1983). In addition to forests, bats will use edge habitats, fallow fields, and open water (Gardner et al. 1991). Indiana bats will consistently use the same travel corridors (stream corridors, road corridors, and forest openings) from roost sites to foraging areas (Murray 1998). In Michigan, Murray and Kurta (in press) observed that Indiana bats never crossed open areas but instead followed tree lines or fencerows to reach foraging areas. The primary prey of Indiana bats appears to be aquatic and terrestrial flying insects.

During the day, reproductive female Indiana bats typically form nursery colonies behind the loose bark of dead or dieing trees. Preferred Indiana bat roost trees are snags, with live trees used at a much lower frequency (Gardner et al. 1991, Kurta and Williams 1992, Kurta et al. 1993, Callahan et al. 1997). However, during inclement weather the reverse may be observed. Trees such as live white oak and shagbark hickories, with their live-crowns and scaly bark, provide increased protection from heavy rains and retain stored heat longer (Gumbert 2001, Humphrey et al. 1977). These tree characters work synergistically: high amounts of usable bark and dense canopy cover are associated with large live trees used as roosts. In Missouri, live trees or snags that were situated further within the forest were associated with cooler temperatures and higher amounts of precipitation (Callahan et al. 1997). Humphrey et al. (1977) also found that live trees are more efficient at retaining previously stored heat. Thus, large live trees may be an important resource for Indiana bats, due to bat's having trouble regulating their body temperature.

Throughout the range of the Indiana bat, the variety of tree species used as roosts seems endless. Indicating that Indiana bats are not selecting trees based on species, but rather for the attributes each tree offers, such as exfoliated bark, solar exposure, canopy cover, aspect, elevation, and distance to available resources and alternative roost trees. For a maternity colony in Missouri, Callahan et al. (1997) suggested that roost site selection was based on tree structural characters rather than species. However, in Michigan, a maternity colony of Indiana bats selected green ash trees over all other available tree species (Kurta et al. 1993). It is possible that certain tree species provide better roosting conditions than others with regard to region.

2.7.4 Summer (Bachelor Male Habitat)

During late March and early April, the hibernacula break up and the majority of Indiana bats move into summer habitat. However, not all Indiana bats migrate away from the hibernacula. Males may remain near the cave throughout the summer, roosting in wooded areas near the hibernaculum and occasionally visiting the hibernaculum throughout the summer (Hobson and Holland 1995, Kiser and Elliott 1996, Gumbert 2001).

2.8 Causes for Past/Current Decline

Causes for the overall decline of Indiana bats are not fully understood. Originally, cave disturbance was thought to be the primary reason for the decline. Cave visitation during the winter months by amateur spelunkers and researchers lead to the disturbance of hibernating bats. Therefore, habitat protection for Indiana bats has primarily focused on the caves where they hibernate.

Even though many caves have been protected, the population of the Indiana bat continues to decline. Other potential causes for the decline include loss of summer habitat, improper cave gate construction, loss of forest cover, stream channelization, severe weather, and range-wide pesticide poisoning (USFWS 2002).

3.0 METHODS

3.1 Summer Habitat Evaluation

An Indiana bat habitat assessment was performed for the proposed project area during survey efforts. This assessment focused on plant community type and structure, especially concerning canopy cover species of trees. Special attention was paid to large tree species (and snags) known to provide roost habitat for Indiana bats. In addition to the habitat assessment for the entire project, each net site was assessed individually.

3.2 Summer Mist Net Survey

The number of mist net sites surveyed was based upon the acreage of potential Indiana bat habitat to be disturbed (125 acres). Based upon this acreage, we conducted surveys at two sites to meet the minimum of two sites per square kilometer requirement for non-stream corridor land tracts. Each site consisted of two net sets and was surveyed for two nights (for a total of eight net nights of effort). Nets were spaced at least 30 meters apart to ensure that nets did not interfere with one another. Nets were 6 to 12 meters wide and were raised by pulley ropes to a height of 5 to 10 meters (both depending on corridor size). Mist nets used during survey efforts had a mesh size of 3 cm. If placed over water, the bottoms of nets were lowered to the water surface to capture bats while drinking. Nets were opened at dusk (approximately 9:00pm) and remained open for at least 5 hours (until approximately 2:00 am). Nets were checked for captured bats every 10-15 minutes.

Bats captured were carefully removed from the nets and then identified. The sex, reproductive condition, age, weight, and forearm length, were then determined for all captured bats. After all information had been collected the bats were then released at the sight of capture. No bats were injured, killed, or retained during survey efforts. In addition to the above methods, we also cleaned our equipment regularly (following USFWS Region 5 Protocol) to help prevent the spread of white-nose syndrome (WNS).

It is not recommended that Indiana bat surveys be conducted when temperatures drop below 50 degrees Fahrenheit or during rainy, foggy or windy conditions. To ensure that surveys were not conducted during inclement weather, temperature, rainfall, and wind speed were monitored hourly.

3.3 Winter Habitat Assessment

The proposed project area was surveyed to determine if any caves were present. If present, caves would be evaluated to determine their suitability for Indiana bats. If present, the following information would be collected at each cave: opening diameter and whether it is horizontal or vertical; length of cave (that can be seen from the opening); internal dimensions; entrance and ceiling stability; presence and direction of airflow (inward or outward); outside temperature and temperature at cave opening; indications that cave floods to the ceiling (watermarks and debris); percent canopy closure at entrance; distance to nearest water source; evidence of use by bats (insect remains, guano, spider webs, obstruction by vegetation); and would cave make bats susceptible to predators. Caves would then be assessed as to whether or not they provide potential habitat for the Indiana bat. If caves were determined to provide potential Indiana bat habitat, they would be surveyed between 15 September and 31 October to determine if they are being used by Indiana bats.

4.0 RESULTS

4.1 Summer Habitat Evaluation

On 22 through 25 June 2008, the proposed project area was evaluated by Apogee biologists for potential Indiana bat summer habitat. Many trees were observed within the permit area that had the necessary criteria to be primary and/or alternate roost trees. Potential roost trees included both snags and large trees that were widely scattered over the project area. The forested areas are dominated by an overstory of white oak (Q. alba), northern red oak (Q. rubra), tulip tree (Liriodendron tulipifera), black oak (Q. velutina), sugar maple (Acer saccharum), and beech (Fagus grandifolia). Sub-dominants included white ash (Fraxinus americana), black gum (Nyssa sylvatica), mockernut hickory (Carya tomentosa), southern red oak (Quercus falcata), and red maple (Acer rubrum). In addition to the overstory trees, surveys by foresters during 2008 found 50 snags on approximately half the Rivanna Station (Pers. comm. John Stokely)

Two sites were surveyed for Indiana bats by Apogee biologists on 22 through 25 June 2008. Locations of the two net sites are shown in Figure 1. Sketches of each net site are located in Appendix A. GPS locations for the sites are located in Table 1.

Table 1. GPS coordinates of mist net site locations, Albemarle County, Virginia (USFWS Project No. 51411-2007-TA0502.

Site #	Latitude	Longitude
MS-1	N 38° 09' 14.3"	W 78° 24' 44.1"
MS-2	N 38° 09' 26.5"	W 78° 25' 03.1"

4.2 Summer Mist Net Survey

No endangered bats were captured during the eight net nights of effort for the proposed project area (Table 2). A total of three bats of two species were captured during the project. These included two eastern red bats (Lasiurus borealis) and one eastern pipistrelle (Perimyotis subflavus). Bat Survey Data Forms were completed for each night of mist netting and are contained in Appendix B.

Table 2. Bats species captured during mist net survey at Rivanna Station on 22 through 25 June 2008, Albemarle County, Virginia (USFWS Project No. 51411-2007-TA0502.

Date (2008)	Lasiurus borealis	Perimyotis subflavus	Total
22 June	1	-	1
23 June	-	-	
24 June	1	-	1
25 June	-	1	1
Total	2	1	3

Weather conditions at the permit area were within the limits to conduct an Indiana bat survey. Lows between 9:00 pm and 2:00 am for the survey ranged from 61.5 degrees Fahrenheit to 68.6 degrees Fahrenheit, while high temperatures ranged from 70.5 degrees to 74.3 degrees Fahrenheit. Temperature data collected during survey efforts are shown in Table 3.

Table 3. Temperature data collected during mist net survey at Rivanna Station on 22 through 25 June 2008, Albemarle County, Virginia (USFWS Project No. 51411-2007-TA0502.

Date	Temperature (°F)		
	9:00	12:00	2:00
22 June	74.3°	68.6°	68.9°
23 June	71.2°	68.0°	61.5°
24 June	70.5°	61.7°	60.4°
25 June	72.5°	67.1°	64.6°

4.3 Winter Habitat Assessment

Winter habitat searches were conducted by Apogee biologists on 22 and 23 June 2008 and no potential habitat were located within the proposed project area.

5.0 DISCUSSION

No Indiana bats were captured during survey efforts. The eastern red bat and eastern pipistrelle were the only species captured during the survey. In addition, no potential winter habitat was located during the assessment. The fact that no winter habitat was located on the project was not surprising. According to John Stokely (Paciulli, Simmons & Associates, Ltd.), all of Rivanna Station had been

surveyed by foresters and no caves or other potential winter habitat had been noted.

Bat habitat on the proposed project area was varied. Some areas of the project are covered in old fields and thus are presently not considered habitat for the Indiana bat. Other areas are dominated by upland forest. These areas contained both large trees and snags that could have potentially been used by Indiana bats.

Weather conditions at the project area were within the limits to conduct an Indiana bat survey. Mist net surveys provided no evidence of summer Indiana bat usage. Likewise, portal searches provided no evidence of potential winter habitat. The surveys were conducted following guidelines set forth by the U.S. Fish and Wildlife Service and the Indiana Bat Recovery Team.

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 MS-1, Net A	 MS-1, Net B
 MS-2, Net A	 MS-2, Net B

Appendix A - Mist Net Site Photographs

APPENDIX **B**

COMPLETED BAT SURVEY DATA SHEETS

Project # 08-253.00 Project Name Rivanna Station Indiana Bat Date 22 June 2008

Biologists Joel Beverly, Stephanie Bien Net site name/# MS-1

GPS: N 38° 09' 14.3" W 78° 24' 44.1" County Albemarle State VA Quad Earlysville

Capt #	Species	Time	Age	Sex	Reprod	Wt (g)	RFA (mm)	Band #	Net (Ht)
1	Lasiurus borealis	11:45	Ad	M	↑	13.2	41	—	B-14'
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Moon Waning gibbous

Time	Temp (°F)	% Cloud	Wind speed
9:00	74.3	30	1-3
10:00	70.5	100	4-7
11:00	69.5	100	1-3
12:00	68.6	100	1-3
1:00	68.2	100	1-3
2:00	67.9	100	1-3

Wind Scale:

Windspeed	Description
0 mph	Calm
1-3	Light Air
4-7	Light Breeze
8-12	Gentle Breeze
13-18	Moderate Breeze

Comments:
Storms to north at around 8:15 (see lightning)
12:45 - 1:00 - very light rain.

Anabat # —

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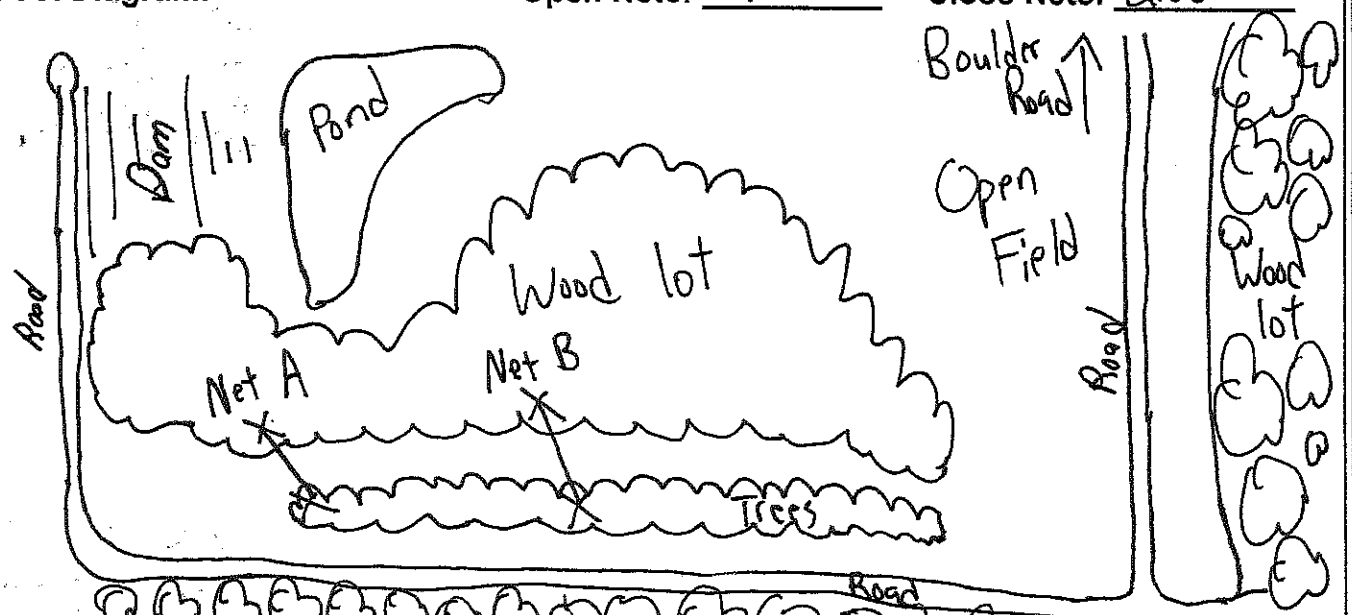
APOGEE ENVIRONMENTAL CONSULTANTS, LLC

Project # 08-253.00 Project Name Rivanna River - IB Net site MS-1 Date 22 June 2008

Cap t #	Species	Time	Age	Sex	Reprod	Wt (g)	RFA (mm)	Band #	Net (Ht)
23									
24									
25									
26									
27									
28									

Net Set Diagram: Open Nets: 9:00 Close Nets: 2:00



Comments: Net A - 2 pole 2-18 ft nets across dry road corridor with good canopy cover and average side coverage.
Net B - 2 pole 2-30 nets across dry road corridor with good side coverage and poor canopy coverage.

Vegetation

Dominant Canopy Species
1. Quercus alba
2. Quercus rubra
3. Acer rubrum

Canopy closure
☐ closed ☒ moderate ☐ open

Site Roost Tree Potential
☐ large trees ☐ snags ☒ both

Area Roost Tree Potential
☐ high ☒ moderate ☐ low

Subcanopy Closure
☐ closed ☐ moderate ☒ open

Comments / Other Trees
Upland woods with larger trees being around 25-30 cm dbh. Other trees Liriodendron tulipifera, Quercus falcata, Fagus grandifolia

Attachment 6

6-23

Appendix D

Apogee Environmental Consultants, Inc.
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APOGEE ENVIRONMENTAL CONSULTANTS, LLC

Project # 08-253.00 Project Name Rivanna Station Indiana Bat Date 23 June 2008

Biologists Joel Beverly, Stephanie Bien Net site name/# MS-1

GPS: N 38° 09' 14.3" W 78° 24' 44.1" County Albemarle State VA Quad Earlysville

Capt #	Species	Time	Age	Sex	Reprod	Wt (g)	RFA (mm)	Band #	Net (Ht)
1	No Bats								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Moon waning gibbous

Time	Temp (°F)	% Cloud	Wind speed
9:00	71.2	20	4-7
10:00	68.7	30	4-7
11:00	66.4	0	1-3
12:00	68.0	0	1-3
1:00	60.3	0	1-3
2:00	61.5	0	1-3

Wind Scale:

Windspeed	Description
0 mph	Calm
1-3	Light Air
4-7	Light Breeze
8-12	Gentle Breeze
13-18	Moderate Breeze

Comments:

Anabat # –

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APOGEE ENVIRONMENTAL CONSULTANTS, LLC

Project # 08-253.00 Project Name Rivanna Station Net site MS-1 Date 23 June 2008

Cap t #	Species	Time	Age	Sex	Reprod.	Wt (g)	RFA (mm)	Band #	Net (Ht)
23									
24									
25									
26									
27									
28									

Net Set Diagram: Open Nets: 9:00 Close Nets: 2:00

See 22 June 2008 data sheet

Comments:

Vegetation

Dominant Canopy Species

1.
2.
3.

Canopy closure

☐ closed ☐ moderate ☐ open

Site Roost Tree Potential

☐ large trees ☐ snags ☐ both

Area Roost Tree Potential

☐ high ☐ moderate ☐ low

Subcanopy Closure

☐ closed ☐ moderate ☐ open

Comments / Other Trees

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APOGEE ENVIRONMENTAL CONSULTANTS, LLC

Project # 08-253.00 Project Name Rivanna Station Indiana Bat Date 24 June 2008

Biologists Joel Beverly, Stephanie Bien Net site name/# MS-2

GPS: N 38° 09' 26.5 W 78° 25' 03.1" County Albemarle State VA Quad Earlysville

Capt #	Species	Time	Age	Sex	Reprod	Wt (g)	RFA (mm)	Band #	Net (Ht)
1	Lasiurus borealis	11:30	Ad	F	Lact.	14.1	41	–	B-5'
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Moon waning gibbous

Time	Temp (°F)	% Cloud	Wind speed
9:00	70.5	10%	1-3
10:00	66.9	0%	1-3
11:00	65.8	0%	1-3
12:00	61.7	0%	1-3
1:00	63.1	5%	1-3
2:00	60.4	10%	1-3

Wind Scale:

Windspeed	Description
0 mph	Calm
1-3	Light Air
4-7	Light Breeze
8-12	Gentle Breeze
13-18	Moderate Breeze

Comments:

Anabat # ——

Apogee Environmental Consultants, Inc.
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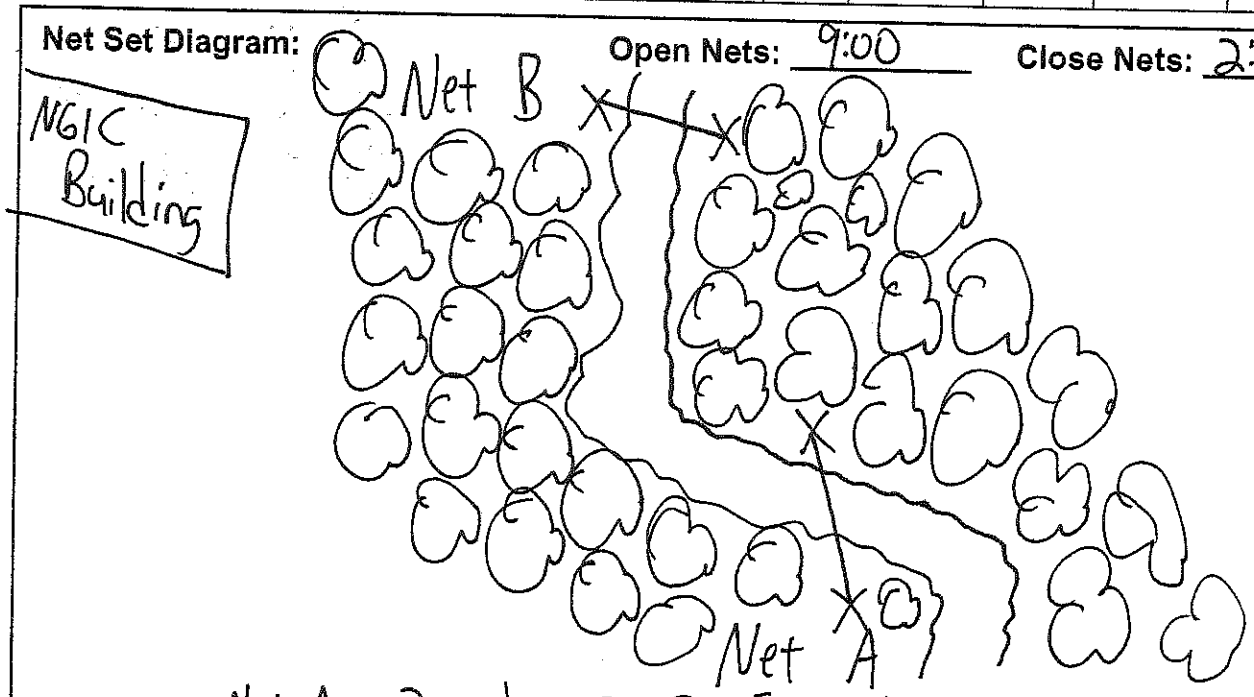
APOGEE ENVIRONMENTAL CONSULTANTS, LLC

Project # 08-253.00 Project Name Rivanna Station Net site M5-2 Date 24 June 2008

Cap t#	Species	Time	Age	Sex	Reprod.	Wt (g)	RFA (mm)	Band #	Net (Ht)
23									
24									
25									
26									
27									
28									

Net Set Diagram: Open Nets: 9:00 Close Nets: 2:00



Comments: Net A - 2 pole 2-30 ft nets across creek. Site has excellent side and canopy coverage.
Net B - 2 pole 2-18 ft nets across creek. Site has excellent side and canopy coverage.

Vegetation

Dominant Canopy Species
1. Quercus rubra
2. Quercus alba
3. Liriodendron tulipifera

Canopy closure
☒ closed ☐ moderate ☐ open

Site Roost Tree Potential
☒ large trees ☐ snags ☐ both

Area Roost Tree Potential
☐ high ☐ moderate ☒ low

Subcanopy Closure
☒ closed ☐ moderate ☐ open

Comments / Other Trees
No snags. Upland woods with thick subcanopy. Creek where nets are is pretty much only corridor. Close to Rte. 29 and NGIC area.

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APOGEE ENVIRONMENTAL CONSULTANTS, LLC

Project # 08-253.00 Project Name Rivanna Station Indiana Bat Date 25 June 2008

Biologists Joel Beverly, Stephanie Bien Net site name/# MS-2

GPS: N 38° 09' 26.5" W 78° 25' 03.1" County Albemarle State VA Quad Earlysville

Capt #	Species	Time	Age	Sex	Reprod	Wt (g)	RFA (mm)	Band #	Net (Ht)
1	Perimyotis subflavus	12:15	Ad	F	Preg.	34	7.7	—	B-4'
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Moon Waning gibbous

Time	Temp (°F)	% Cloud	Wind speed
9:00	72.5	0	1-3
10:00	68.5	0	1-3
11:00	66.6	0	1-3
12:00	67.1	0	1-3
1:00	67.3	0	1-3
2:00	64.6	0	1-3

Wind Scale:

Windspeed	Description
0 mph	Calm
1-3	Light Air
4-7	Light Breeze
8-12	Gentle Breeze
13-18	Moderate Breeze

Comments:

Anabat # —

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APOGEE ENVIRONMENTAL CONSULTANTS, LLC

Project # 08-253.00 Project Name Rivanna Station Net site MS-2 Date 25 June 2008

Cap t #	Species	Time	Age	Sex	Reprod.	Wt (g)	RFA (mm)	Band #	Net (Ht)
23									
24									
25									
26									
27									
28									

Net Set Diagram: Open Nets: 9:00 Close Nets: 2:00

See 24 June 2008 data sheet

Comments:

Vegetation

Dominant Canopy Species

1.
2.
3.

Canopy closure

☐ closed ☐ moderate ☐ open

Site Roost Tree Potential

☐ large trees ☐ snags ☐ both

Area Roost Tree Potential

☐ high ☐ moderate ☐ low

Subcanopy Closure

☐ closed ☐ moderate ☐ open

Comments / Other Trees

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APPENDIX E

Historic Resources

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APPENDIX E
Historic Resources

The following documentation is provided to support the conclusions regarding presence of and impacts to historic resources.

- Attachment 1: Phase I Cultural Resources Survey of Approximately 14.0 acres associated with the Proposed Expansion of the Rivanna Station Development Area, Albemarle County, Virginia, October 2013.

- Attachment 2: Section 106 Consultation Letters

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Attachment 1:

Phase I Cultural Resources Survey of Approximately 14.0 acres associated with the Proposed Expansion of the Rivanna Station Development Area, Albemarle County, Virginia, October 2013.

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PHASE I CULTURAL RESOURCES SURVEY OF APPROXIMATELY 14.0 ACRES ASSOCIATED WITH THE PROPOSED EXPANSION OF THE RIVANNA STATION DEVELOPMENT AREA, ALBEMARLE COUNTY, VIRGINIA

Prepared For:

HNTB Corporation
2900 S. Quincy Street, Suite 200
Arlington, VA 22206

Prepared By:

Cultural Resources, Inc.
1049 Technology Park Drive
Glen Allen, Virginia 23059
(804) 355-7200

October 2013

CRI Project No. 1809 **October 10, 2013**

PHASE I CULTURAL RESOURCES SURVEY OF APPROXIMATELY 14.0 ACRES ASSOCIATED WITH THE PROPOSED EXPANSION OF THE RIVANNA STATION DEVELOPMENT AREA, ALBEMARLE COUNTY, VIRGINIA

Prepared For:

HNTB Corporation
2900 S. Quincy Street, Suite 200
Arlington, VA 22206

Prepared By:

Brynn Stewart
Principal Investigator

and

Ellen M. Brady
President

Cultural Resources, Inc.
1049 Technology Park Drive
Glen Allen, Virginia 23059
(804) 355-7200

ABSTRACT

From September 30 to October 4, 2013, Cultural Resources, Inc. (CRI) conducted a Phase I archaeological survey of approximately 14.0 acres associated with the proposed expansion of the Rivanna Station development area in Albemarle County, Virginia. The project area is adjacent to the southeastern edge of Rivanna Station and is bounded on the east by Green's Pond. The current investigation was conducted for the HNTB Corporation in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended through 1992 (NHPA-PL89-665) and the Advisory Council on Historic Preservation's regulations for compliance with Section 106 (36 CFR Part 800).

The Phase I cultural resources survey was designed to locate and identify cultural resources within the defined project area and to obtain sufficient information to make recommendations regarding their potential eligibility for listing in the National Register of Historic Places (NRHP). During the survey, CRI conducted systematic subsurface testing using shovel tests placed at 50.0-foot intervals along nine transects (Transects A−I) spaced 50.0 feet apart within the project area. A total of 122 shovel tests was excavated within the project area with no shovel tests positive for cultural material. A total of 129 shovel tests was not excavated due primarily to their location in areas of steep slope but also due to the presence of gravel access roads and exposed bedrock. No new isolated archaeological finds or new archaeological sites were recorded during this investigation.

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I. INTRODUCTION

From September 30 to October 4, 2013, CRI conducted a Phase I archaeological survey of approximately 14.0 acres associated with the proposed expansion of the Rivanna Station development area in Albemarle County, Virginia. The project area is adjacent to the southeastern edge of Rivanna Station and is bounded on the east by Green's Pond (Figure 1). The project area is comprised of open fields and woodland. The current investigation was conducted for the HNTB Corporation.

All cultural resources services described herein were conducted pursuant to the National Historic Preservation Act of 1966, as amended, the Archaeological and Historic Preservation Act of 1974, Executive Order 11593, relevant sections of 36CFR60 and 36CFR800. The CRI Principal Investigator directing this survey meets the professional qualification standards of the Department of the Interior (48 FR 44738-9). The fieldwork component of these investigations will conform to the qualifications specified in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (Federal Register 48:44716-44742, September 29, 1983), and the Virginia Department of Historic Resources' (VDHR) *Guidelines for Conducting Historic Resources Survey in Virginia* (2011). All records will be curated according to the requirements specified in *Curation of Federally Owned and Administered Archaeological Collections* (36 CFR Part 79) and the VDHR's *State Curation Standards.* The technical report was compiled with reference to the Virginia Department of Transportation's *Expectations and Standard Products for Cultural Resource Surveys,* as well as the federal and state guidelines mentioned above.

President Ellen M. Brady prepared the research design. Principal Investigator Brynn Stewart oversaw the project and authored this report. Project Archaeologist Donald Sadler directed the field work and was assisted in the field by Archaeologist/Historian Brian Schools. Paul Boxley, AutoCADD Technician, and Sean Sutor, GIS Technician, prepared the report graphics and project maps. Copies of all field notes, maps, correspondence, and historical research materials are temporarily on file at CRI's office in Glen Allen, Virginia.

Figure 1. Detail of *Earlysville, VA* USGS Quadrangle Showing the Project Area.

II. ENVIRONMENTAL CONTEXT

Physical Description and Environmental Setting

The project area is located adjacent to the Joint Use Intelligence Analysis Facility (JUIAF) in Rivanna Station and is bounded on the east by Green's Pond. The project area consists of a mix of open fields and woodland and encompasses approximately 14.0 acres in extent.

Geology and Topography

The current project area is located in the Piedmont physiographic province of Virginia. This region is the non-mountainous portion of the Appalachian chain and slopes from the mountains to the Coastal Plain. The region consists primarily of rolling hills and rock outcrops and has been exposed to chemical weathering as much of the region is covered by a layer of saprolitic soil (Fenneman 1938; Thornbury 1965). The project area ranges from 394.0 feet above mean sea level (amsl) along the bank of Green's Pond to 475.0 feet amsl on the bench above the pond. Soil erosion is a problem in the Virginia piedmont and has been attributed to the agricultural practices of early settlers (Fisher 1983). These practices, in addition to more modern tobacco cultivation, have resulted in severe erosion, soil exhaustion, and the silting of stream valleys. These issues may account for the small number of recorded archaeological sites as compared to the other physiographic regions in Virginia (Fisher 1983).

The current project area is underlain by plutonic rocks of the Middle Proterozoic period. These rocks consist of porphyroblastic biotite-plagioclase gneiss that is medium to coarse-grained and is rich in biotite and feldspar (Rader and Evans 1993).

Hydrology

Albemarle County is drained by the James River and its three major tributaries; the Rivanna River, Rockfish River, and Hardware River. The current project area is located in the portion of the county drained by the Rivanna River and its tributaries (Carter et al. 1985). The principal tributaries of the Rivanna River are North Fork Rivanna River, Buck Mountain Creek, Moormans Creek, and Mechum River. The current project area is drained by the North Fork Rivanna River and Herring Branch.

Soil Morphology

Soils in the project area are well drained. The project area is gently to steeply sloping with slopes ranging from 2 to 15.0 percent near the western edge and 15.0 to 45.0 percent along the eastern edge adjacent to Green's Pond. Soils consist primarily of loams including Albemarle fine sandy loam, Albemarle very stony fine sandy loam, Catoctin very stony silt loam, and Manor loam. The majority of the soils within the project area are very stony (Table 1; Figure 2).

Table 1. Key to the Soils Map			
Symbol	**Map Unit Name**	**Percent Slope**	**Drainage Description**
2B	Albemarle fine sandy loam	2-7%	Well Drained
3D	Albemarle very stony fine sandy loam	15-25%	Well Drained
3E	Albemarle very stony fine sandy loam	25-45%	Well Drained
13C	Catoctin very stony silt loam	7-15%	Well Drained
13D	Catoctin very stony silt loam	15-25%	Well Drained
50E	Manor loam	2545%	Well Drained
W	Water	-	N/A

Natural Resources

The character of the topography, the proximity of water resources, and the types of soils all have a direct effect on the variety of flora that is attracted to the setting and in turn, the fauna that relies on that ecological setting for sustenance. The quantity and variety of both plants and animals in an area has a direct influence on human habitation. Native American populations successfully utilized a wide variety of native flora and fauna whose seasonal availability was well-known to them. New settlers relied on available timber to build shelter and in part, on procurable plants and animals to augment their diet. It would be difficult for a Woodland Indian in A.D. 900, a colonial planter in 1750, or a farmer in 1870 to have prospered without certain key natural resources.

During the Holocene, prior to European contact, this region of Virginia supported a diverse biotic and floral community. The riverine area, dominated by hardwoods, provided shallow water environments beneficial to shellfish and baitfish, as well as a wide variety of amphibians, reptiles, and larger fishes. This habitat also supported numerous avian species, including raptors. The uplands of the interior supported numerous species of large game animals such as elk and whitetail deer, as well as predators including black bear, eastern gray wolf, and bobcat.

A wide variety of native wildlife species still prosper in the upland and riverine setting and are typical of the mid-Atlantic region. The most common terrestrial wildlife in the area today includes deer, turkey, fox, raccoon, opossum, squirrel, rabbit, weasel, and groundhog. Amphibians and reptiles such as snakes, lizards, salamanders, frogs, and turtles are found throughout the property. Numerous species of wild songbirds nest in the area. Birds of prey and waterfowl are also commonly seen.

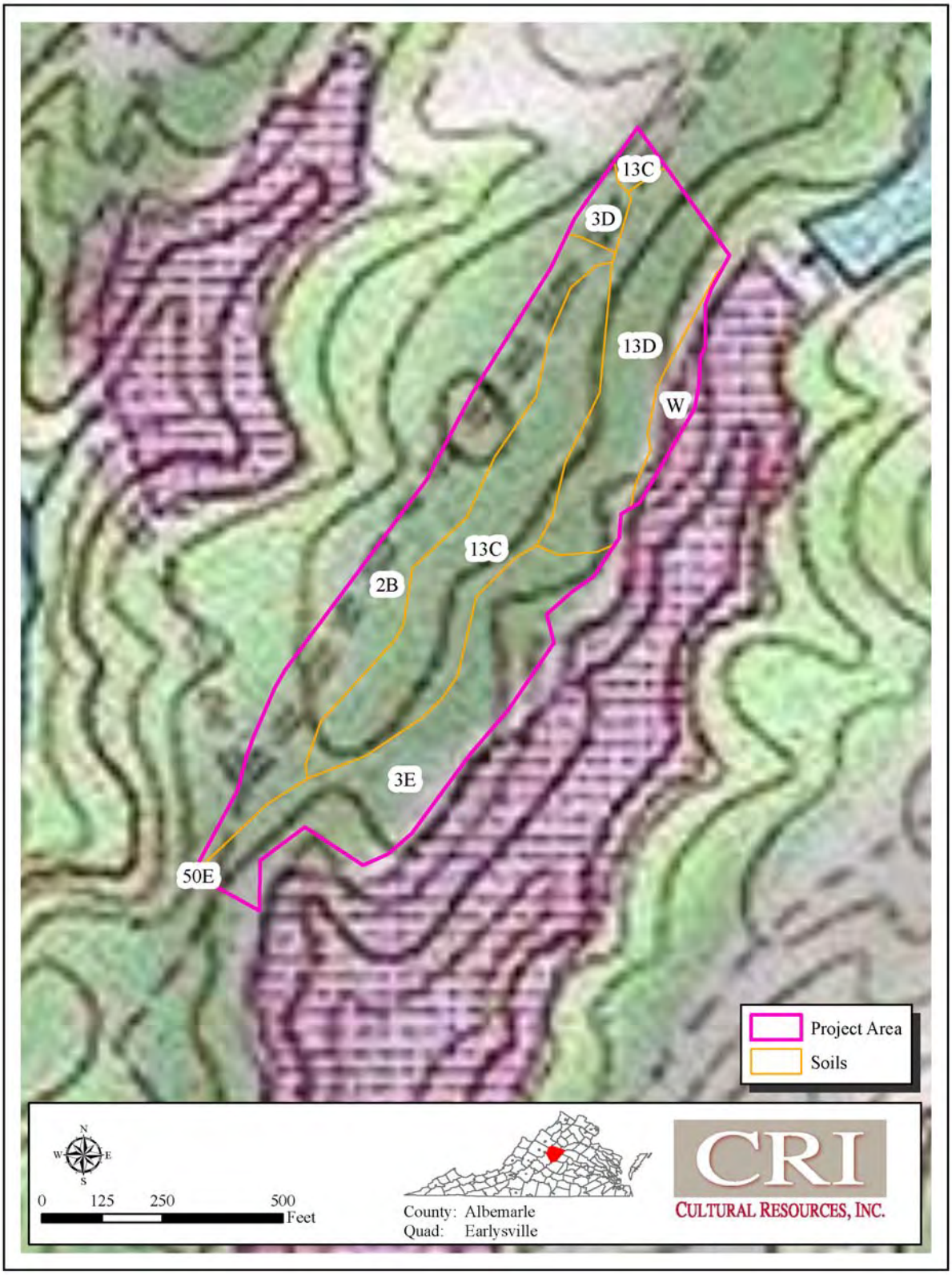

Figure 2. Soils within the Project Area.

III. CULTURAL CONTEXT

Introduction

Virginia's Native American prehistory typically is divided into three main periods, Paleoindian, Archaic, and Woodland and based on changes in material culture and settlement systems. Recently, the possibility of human presence in the region that pre-dates the Paleoindian period has moved from remote to probable. For this reason, a Pre-Clovis discussion precedes the traditional tripartite division of Virginia's Native American history. The seventeenth-through-twentieth-century historical overview follows the VDHR (2011) guidelines. The cultural context, as defined by the Secretary of the Interior's *Standards and Guidelines* for Archaeology and VDHR's 1992 *How to Use Historic Contexts in Virginia: A Guide for Survey, Registration, Protection, and Treatment Projects*, provides the historic, social and environmental information required for evaluation of any archaeological and architectural resources present within the proposed project area.

Pre-Clovis (?−13,000 B.C.)

The 1927 discovery, at Folsom, New Mexico, of a fluted point in the ribs of an extinct species of bison proved that ancient North Americans had immigrated during the Pleistocene. It did not, however, establish the precise timing of the arrival of humans in the Americas, nor did it adequately resolve questions about the lifestyle of those societies (Meltzer 1988:2-3). Both the stratigraphic record and the radiocarbon assays from several sites, including the recently excavated Cactus Hill site in Sussex County, suggest the possibility of human occupation of Virginia before the fluted-point makers appeared on the scene (McAvoy and McAvoy 1997). Buried strata at the Cactus Hill Site, in Sussex County, Virginia, have returned radiocarbon dates of 15,000 years ago from strata situated below levels containing fluted points (McAvoy and McAvoy 1997:165).

McAvoy's team encountered artifacts and charcoal separated from the Paleoindian level by 3.0 to 4.0 inches (in) (7.6 to 10.2 centimeters [cm]) of sterile sands. Subsequent fieldwork confirmed the presence of artifact-bearing strata located between 3.0 and 8.0 in (7.6 and 20.3 cm) below the fluted-point levels. The artifacts recovered from the pre-fluted-point levels present a striking contrast with the tool kit typically used by Paleoindians. Rather than relying on extensively finished chert knives, scraping tools, and spear points, the pre-Clovis peoples used a different but highly refined stone technology. Prismatic blade-like flakes of quartzite, chipped from specially prepared cobbles and lightly worked along one side to produce a sharp edge, constitute the majority of the stone cutting and scraping tools. Sandstone grinding and abrading tools, possibly indicating production of wood and bone tools or ornaments, also occurred in significant numbers in the deepest artifact-bearing strata.

Because these tools do not possess unique characteristics which immediately identify them as dating to the Pleistocene, archaeologists must recognize the possibility that pre-Clovis sites have been overlooked for years. At present, only a handful of potential pre-

Clovis sites have been identified in North America. The probability of discovering pre-Clovis remains within the proposed project area is, consequently, extremely low.

Paleoindian Period (Prior to 8000 B.C.)

In the decades following the discovery at Folsom, New Mexico, the association of fluted points with the bones of large, extinct mammals, in particular mastodons, on the western plains coupled with the scarcity of other Paleoindian sites, led to the inference that the Paleoindian subsistence strategy centered on the pursuit of big-game. This picture, however, exaggerates the reliance of western Paleoindian groups on large game, and appears to be of limited relevance to eastern Paleoindian life. The archaeological data from Virginia compiled by Dr. Ben McCary records numerous discoveries of fluted points, but no unambiguous association between extinct large game and fluted points (Boyd 1989:139). A similar situation occurs throughout the eastern United States. For this reason, many archaeologists now hold that eastern Paleoindians were generalized foragers (e.g., Grayson and Meltzer 2003; but see Fiedel and Haynes 2004).

Most large Paleoindian sites in the southeastern United States are quarry or quarry-related (Meltzer 1988:21), though multiple band aggregation sites also occur (McAvoy 1992:145). Recognizable sites most often result from long-term habitation or repeated use of the same location. It follows from the presence of primarily quarry or quarry-related sites that stone outcrops were regularly revisited. For example, the Thunderbird Site in the Shenandoah Valley (Gardner 1974, 1977) and the Williamson Site in south-central Virginia (McCary 1951, 1974, 1983) rank among the most important Paleoindian sites in Virginia, and in the eastern U.S. as a whole. Both sites represent large camps associated with local sources of high-grade cryptocrystalline lithic materials (Gardner 1981, 1989).

Though the full range of available lithic resources was used to manufacture fluted points (e.g., Phelps 1983), a number of studies have noted a focus on cryptocrystalline materials (e.g., chert, jasper, chalcedony) (Gardner 1974, 1989; Goodyear 1979). The recovery of cryptocrystalline materials at locations far removed from quarries indicates exchange, extensive group movement, or both characterized the Paleoindian era. In addition, the very limited differences between sites and within sites suggest that most people had access to all available resources, while the small size of most Paleoindian sites indicates group size generally was limited to extended families.

In concert, the evidence suggests wide-ranging mobility and a social order involving low-level inter- and intra-group exchange and limited, if any, status differences between and within groups. Ethnographers have grouped such societies under the rubric of the "foraging mode of production." Such societies, notably the San of the Kalahari, are fiercely egalitarian, resisting attempts to garner individual power through a combination of ridicule, sharing, and a fission-fusion pattern of settlement. If all else fails, egalitarian hunter-gatherers "vote with their feet", moving away from the offending individuals (Lee 1979). The combination of high mobility, the absence of domesticated crops, and an

egalitarian ideology precludes construction of elaborate housing, extensive storage facilities, and accumulation of non-portable goods.

Some researchers discuss the Paleoindian period as a single entity (Dent 1995) while others, mostly in the Southeast, divide it into three sub-periods based on morphological differences in projectile point manufacture and technology (e.g., Anderson 1990; Daniel 1998). Gardner (1989:9) adopted an intermediate position, recognizing continuity within the stylistic changes in Paleoindian point form that contrasts with "a definite break between un-notched lanceolate and notched triangular form…at 8000 B.C." The dearth of early points recovered from the area of the York River valley precludes any evaluation of relevance of the proposed chronological subdivisions for the project area.

The Shenandoah Valley contains one of the few Paleolithic sites that could be utilized to document Paleolithic technology and the Paleolithic toolkit (Camps and Chauhan 2009). The Thunderbird Paleoindian site (44WR0011) was identified along the north bank of the South Fork of the Shenandoah River (Virginia Places 2011). The site is located northeast of the current project area, near Winchester in modern Warren County. Comprised of three sites which were utilized by Native Americans from the Paleolithic to the Early Archaic period, the Thunderbird Archaeological District was the first site in Virginia from which direct evidence of Clovis occupation was recovered (VDHR DSS Site Form [Accessed 2013] and Access Genealogy 2012). According the site form on file at VDHR, the Thunderbird site represented a base camp with associated quarry, situated on the edge of a buried terrace of the Shenandoah River's South Fork. Paleoindians and later Early Archaic peoples repeatedly returned to the site to refurbish their toolkits. In 1977, the Thunderbird Site was designated a National Historic Landmark and in 1989, an easement was placed on the site (VDHR DSS Site Form [Accessed 2013]).

No previously recorded Paleoindian sites exist within a 1.0-mile radius of the project area and there is a low probability of encountering artifacts dating to the Paleoindian period within the project area.

Archaic Period (8000−1200 B.C.)

The beginning of the Archaic period coincided with the start of the Holocene period around 8,000 B.C. The Holocene is a geological period that began with the recession of the ice sheets that covered large portions of North America. The start of the Archaic is marked by a shift from a moist, cool climate to a warmer, dryer climate within the region, more similar to the temperate ecosystem of today. This warming trend was gradual and somewhat continuous throughout the first 5,000 years of the Archaic period. The shift in climate allowed for the development of diverse plant and animal communities, as currently found throughout the Middle Atlantic region. These changes in flora and fauna had a marked impact on the hunter-forager subsistence base of the Archaic period (Dent 1995:147, 164-5). The retreat of the ice sheets also caused the sea levels to rise, leading to the gradual formation of the Chesapeake Bay. Prior to the Archaic period the Chesapeake Bay was merely an extension of the Susquehanna river, emptying into the Atlantic Ocean several miles east of Virginia Beach, Virginia.

As with the earlier Paleoindian period, our understanding of the cultural chronology of the Archaic is based primarily upon lithic artifacts: chipped-stone tools and the debris associated with their manufacture. More "biodegradable" forms of material culture have simply not survived in the archaeological record of the region and the items recovered are biased towards lithic materials (Geier 1990:82-83). The basic chronology of Archaic projectile points for the Mid-Atlantic region and the southeastern United States closely follows the sequence outlined by Joffre Coe (1964) for the North Carolina Piedmont, with regional variants. Coe's chronology has been modified over the past 40 years but the basic typology remains intact (Broyles 1971; Dent 1995; Hranicky 2003; Justice 1995; Ward and Davis 1999).

It is believed that Archaic peoples were organized as band-level social groups, with seasonal movements that corresponded to the availability of specific resources. Settlement during the Archaic Period probably involved the occupation of relatively large regions by single, band sized groups living in base camps during part of the year. These band-sized groups would disperse on an as-needed or seasonal basis, creating smaller microband camps that may have consisted of no more than single families.

Two settlement models have projected the seasonal range and focus of Archaic bands. Anderson and Hanson (1988) propose that the distribution of Archaic sites (primarily Early and Middle Archaic) were based along single river drainages. The Band-Macroband Model suggests that a base camp was established in a rich environmental area near the Fall Line, and smaller procurement camps were established seasonally towards the coast and further inland to take advantage of seasonally available resources such as fish, shellfish, nuts and berries. An alternative model takes into account a continued, albeit gradually declining, reliance upon high quality cryptocrystalline lithic resources during the Early and Middle Archaic periods.

Daniel (1996, 1998) proposes that high-quality lithic resources were the central focus around which seasonal movements were geared, and that Early Archaic Native American bands traversed river drainages to gain access to high-quality lithic outcrops and quarries. The Archaic period can be characterized by the development of more specialized resource procurement activities as well as the development of new technologies to accomplish these activities. These differences in the material culture are believed to reflect larger, more localized populations and changes in methods of food procurement and processing.

Early Archaic (8000–6500 B.C.)

Corner and side notching became a common characteristic of projectile points at the beginning of the Early Archaic, indicating potential changes in hafting technology and possibly the invention of the spear-thrower (atlatl). Notched point forms include Palmer and Kirk Corner-Notched and, in localized areas, various side-notched types. The end of the Early Archaic and the start of the Middle Archaic are marked by the appearance of a variety of bifurcate base projectile point forms which, within this area, are primarily represented by LeCroy points (Dent 1995; Justice 1995).

Eight previously identified archaeological sites located within a 1.0-mile radius of the project area may date to this period. These sites (44AB0041, 44AB0042, 44AB0411, 44AB0413, 44AB0414, 44AB0451, 44AB0455, and 44AB0456) represent lithic scatters, camps, and one site of indeterminate function. None of these resources has been evaluated for potential NRHP eligibility. There is a low to moderate probability for identifying archaeological resources dating to the Early Archaic period within the project area.

Middle Archaic (6500−3000 B.C.)

As a whole, the Middle Archaic is marked by the appearance of stemmed projectile point forms. In this area of Virginia, the most common Middle Archaic projectile point types are (from oldest to most recent) Lecroy, Stanly, Morrow Mountain and Guilford, followed by the side-notched Halifax type as the Middle Archaic transitions into the Late Archaic period between ca. 3500 and 3000 B.C. There is also a notable increase in the number of identified Middle Archaic components over the preceding Early Archaic period, which appears to indicate a rise in Native American population levels during this period (Dent 1995; Justice 1995).

Eight previously identified archaeological sites located within a 1.0-mile radius of the project area may date to this period. These sites (44AB0041, 44AB0042, 44AB0411, 44AB0413, 44AB0414, 44AB0451, 44AB0455, and 44AB0456) represent lithic scatters, camps, and one site of indeterminate function. None of these resources has been evaluated for potential NRHP eligibility. There is a low to moderate probability for identifying archaeological resources dating to the Middle Archaic period within the project area.

Late Archaic (3000–1200 B.C.)

Stemmed and notched knife and spear point forms, including various large, broad-bladed stemmed knives and projectile points that generally diminish in size by the succeeding Early Woodland period (e.g., Savannah River points and variants). Also found, though less common, are stemmed and notched-stem forms identical to those associated more prominently with areas of Pennsylvania and adjoining parts of the northeast (Susquehanna and Perkiomen points).

Marked increases in population density and, in some areas, decreased mobility characterize the Late Archaic Period in the Middle Atlantic States and eastern North America as a whole. Locally, there is an increase in the numbers of late Middle Archaic (Halifax) and Late Archaic (Savannah River) sites over those of earlier periods, suggesting a population increase and/or intensity of use of this area of central Virginia between about 3500 B.C. and ca. 1200 B.C.

Mouer (1991b:262) believes it likely that “at least intensive harvesting of wild seeds,” if not the beginnings of domestication, characterized Transitional through Early Woodland times (ca. 2000−500 B.C.), as it did in the Midwest. This process, however, proceeded at

an even rate across neither the Eastern Woodlands nor the Middle Atlantic Region (Stewart 1995:184-5). Yarnell (1976:268), for example, states that sunflower, sump weed, and possibly goosefoot may have been cultivated as early as 2000 B.C. in Midcontinent. In the lower Little Tennessee River Valley, the remains of squash have been found in Late Archaic Savannah River contexts (ca. 2400 B.C.), with both squash and gourd recovered from Iddins period contexts of slightly more recent date (Chapman and Shea 1981:70). Experiments with domestication in the Midcontinent indicate the possibility, even the likelihood, that the inhabitants of the Middle Atlantic cultivated small grains and other plants (Hodges 1991:228-230; Mouer 1991:259-263). "Scant" evidence for early cultivation appears in the archaeological record from Virginia, however (Mouer 1991:259; Blanton 2003:193).

Eight previously identified archaeological sites located within a 1.0-mile radius of the project area may date to this period. These sites (44AB0041, 44AB0042, 44AB0411, 44AB0413, 44AB0414, 44AB0451, 44AB0455, and 44AB0456) represent lithic scatters, camps, and one site of indeterminate function. None of these resources has been evaluated for potential NRHP eligibility. There is a low to moderate probability for identifying archaeological resources dating to the Late Archaic period within the project area.

Woodland Period (1200 B.C.−A.D. 1600)

Increasing use of ceramic technology, a growing dependence upon horticulture, and a shift toward greater sedentism all characterize the Woodland period. Most researchers divide the Woodland period into three sub-periods (Early Woodland, Middle Woodland, and Late Woodland), based primarily on stylistic and technological changes observed in ceramic wares and projectile points, as well as shifts in settlement patterning (e.g., Gardner 1982). Not all researchers agree with this tripartite subdivision, however (e.g., Custer 1989).

Early Woodland (1200−500 B.C.)

The onset of the Woodland period traditionally correlates with the appearance of ceramics (Willey and Phillips 1958:118). Early theorists linked ceramics with agriculture, though few continue to support this position (cf. reviews in Egloff 1991; Hodges 1991). Rather, the evolution of subsistence and technological systems (e.g., Gardner 1982) and various aspects of pan-Eastern interaction (e.g., Egloff 1991; Klein 1997) currently are believed to underlie the evolution of ceramic containers.

The steatite-tempered Marcey Creek type and variants containing other mineral inclusions appear to date between 1200 and 800 B.C. (Egloff 1991:244-5). Though friable sand-and-grit-tempered Accokeek Creek and Elk Island ceramics appear stratigraphically subsequent to Marcey Creek, associated C-14 dates range from 1100 through 500 B.C. Klein and Stevens (1996) cite regional data to support the proposition that, while the thickness, amount of temper, and size of temper in quartz/sand-tempered,

cordmarked ceramics shifted over time, similar pots continued in use into Middle Woodland times.

Radiocarbon dates recommend placement of the Calvert and Fishtail points in the Early Woodland (Gleach 1985). Ovoid to lozenge-shaped points, classified as Teardrop Points, have been dated to 940-50 B.C. in the Northeast (Mounier and Martin 1994). However, similar points have been recovered from Middle Archaic through Middle Woodland I contexts in North Carolina and Virginia (Kirchen 2001:53-69). The Potts Corner-Notched point type, the Vernon point type, and the Claggett point type have been dated only through stratigraphic context or association with early ceramics (Gleach 1985; Stephenson 1963). Similarly, a variety of small stemmed and side-notched forms of assumed association with the Early Woodland period lack definitive temporal assignment (Dent 1995:227-228).

Small bifaces and expedient tools such as drills, perforators, scrapers and utilized flakes regularly appear in Early Woodland assemblages. Other lithic artifacts reported on Early Woodland sites in the Chesapeake region include bipolar flakes possibly used as knives or scrapers, hammerstones, net sinkers, mortars, and pestles (McLearen 1991). Also noted on sites in the region are tools of bone, and projectile points manufactured from antler, bone, turkey spurs, and shark's teeth (Painter 1988; Waselkov 1982).

The increased number of sites dating to the Early Woodland, coupled with the recognition of structures, features, and activity areas at some sites, suggests rising population size in the Chesapeake region (e.g., Mouer 1991:38-9; Stewart 1995:183). In contrast, noting that the addition of pottery to stone adds temporally diagnostic artifacts to the archaeological record, Fiedel (2001:106-7) observes that more sites are expected to appear in the archaeological record during Woodland times. Furthermore, the various Broadspears, dating to the Terminal Archaic (ca. 2000–1000 B.C.), represent a curated technology (Barber and Tolley 1984), while replication experiments suggest stemmed bifaces similar to Early Woodland types rank among the easiest forms to produce using quartz (Bourdeau 1981). Therefore, a shift from a curated, hence less commonly discarded biface form, to points easily produced from a ubiquitous material accompanied the appearance of ceramics. Thus, the absence of a dramatic swell in the number of sites, coupled with decreased representation of diagnostic point forms, indicates a demographic trough or at best a flat demographic curve characterized the Early Woodland period.

In general, sparse concentrations of artifacts characterize Early Woodland sites (Mouer 1990:160-174; Stewart 1998a:2). At several sites in the central James River valley, however, notably Scott # 2 (44GO0040), dense accumulations of artifacts and midden soils have been described (Mouer 1990:160-164). The rare occurrence of similar sites, combined with the extremely large, fragile pots recovered by Mouer (1990:162) and the diversity of points identified (Mouer 1990:161), seemingly indexes multi-band aggregations near the falls of the James River. Mouer (1990), however, interprets 44GO0040 as evidence for the appearance of village life during Early Woodland times. Regardless, the preservation of an extensive accumulation of Early Woodland artifacts suggests the existence of a unique geomorphological, and probably social, setting.

Overall, the data appear to indicate a return to the mobile, egalitarian social organization characteristic of Early and Middle Archaic times (Klein 2003). Even at large Early Woodland sites post-dating A.D. 800, very limited evidence of long-distance exchange or the manufacture of labor-intensive artifacts comparable to the soapstone exchange of the Terminal Archaic appears.

Eight previously identified archaeological sites located within a 1.0-mile radius of the project area may date to this period. These sites (44AB0041, 44AB0042, 44AB0411, 44AB0413, 44AB0414, 44AB0451, 44AB0455, and 44AB0456) represent lithic scatters, camps, and one site of indeterminate function. None of these resources has been evaluated for potential NRHP eligibility. There is a low to moderate probability for identifying archaeological resources dating to the Early Woodland period within the project area.

Middle Woodland (500 B.C.−A.D. 900)

Popes Creek Net-impressed ceramics appear after roughly 500 B.C., marking the beginning of the Middle Woodland I period (500 B.C.–A.D. 200) (Blanton 1992:72-3; Egloff and Potter 1982:99). However, cordmarked ceramics and stemmed points continued in use for some time after A.D. 500 (McLearen 1992:44-5). Custer (1989:141-146), for example, lumps the period between 3000 B.C. and A.D. 1000 under the rubric Woodland I based on the similarity in adaptation and the presence of considerable variation in the form of contemporaneous stemmed and notched points. Net-impressed surface treatments occur on a variety of ceramic types manufactured during Middle Woodland times. Pope's Creek ceramics first appear after 500 B.C., coinciding with the start of the Middle Woodland (Blanton 1992:72-3; Egloff and Potter 1982:99). Early Woodland cord-marked ceramics and stemmed projectile points are found in Middle Woodland contexts, suggesting a continued use of Early Woodland technologies (McLearen 1992:44-5). The Prince George and Varina types appear to represent a continuum of development in the technology used to produced Popes Creek sherds, rather than dramatically different types (Mouer et al. 1986). After A.D. 200, shell-tempered net-impressed, cordmarked, and plain pottery classified as the Mockley type becomes predominant in the outer Coastal Plain of Virginia and Maryland, though generally similar sherds tempered with grit continued in production as well (Johnson 2001:100).

The appearance of assemblages containing significant amounts of durable ceramics after 500 B.C. indicates a shift in the organization of production occurred during the Middle Woodland periods (Brown 1986; 1989). In addition to the advantages of ceramic vessels as cooking pots, ceramic production contrasts with the manufacture of baskets and wooden bowls in its embrace of economies of scale. Rather than a start-and-stop process that fits well into odd bits of time, ceramic production required greater scheduling and continued attention over an extended period of time. Shifts in the scheduling of work, therefore, accompanied the transition from Early to Middle Woodland times.

Broad-spectrum hunting-fishing-gathering continued to characterize the region as a whole throughout the Middle Woodland period. Shellfish, anadromous and resident

fishes, deer, waterfowl, and turkey ranked high among the important fauna in the Middle Woodland diet. Various nuts, amaranth, and chenopod seeds also appear to be important resources during this period. After 300 B.C., large shell middens containing dense concentrations of artifacts become increasingly common, indicating repeated use of at least one type of site. Middens and the presence of houses at a number of sites indicate longer stays, though populations remained far from sedentary (Gallivan 2003). People continued to reside for much of the year in relatively small settlements, and interior storage features rarely occur on Middle Woodland sites (Gallivan 2003:75-98).

Temporal shifts in cordage-twist direction over the course of the Woodland period, primarily a reflection of learning networks (Carr and Maslowski 1995), indicate increasing regional social distance. These data imply a reduction of regular movements between spatially discrete groups and a consequent increasing localization of learning networks. To the extent that social networks became bounded, differences between groups in the region would have been amplified (Boehm 1997:S108-S109).

Throughout Virginia, the Middle Woodland is marked by the presence of "interregional interaction spheres, including the spread of religious and ritual behaviors which appear locally in transformed ways; localized stylistic developments that sprang up independently alongside interregional styles; increased sedentism; and evidence of ranked societies or incipient ranked societies" (McLearen 1992:55). Around 500 B.C., stone and earth burial cairns and cairn clusters in the Shenandoah Valley of Virginia mark the first appearance of elaborate burial ceremonialism in Virginia, though not in the wider world of Eastern North America (McLearan 1992; Stewart 1992). The major upsurge in ceremonial activity occurred during the A.D. 500–1100 period, however. Sites containing elaborately decorated zoned-incised ceramics (Stewart 1998b) and indications of extended mortuary ceremonies have been identified in the Chesapeake region (e.g., Crowell and Potter 2006; Knepper et al. 2006:99-144).

The underlying tension between a cultural emphasis on community and equality and the historical trajectory toward "inequality and competition inherent in big-man systems" produced, according to Hantman and Gold (2002:288), cyclical fluctuations in exchange, ritual activity, and sociopolitical complexity between 3000 B.C. and A.D. 1650. Mortuary rituals and labor-intensive or exotic artifacts at times created and reflected social distinctions in the Middle Atlantic, but "the trajectory for individual markers of status continually appears to move in the opposite direction toward more egalitarian or even access to goods and ritual status" (Hantman and Gold 2002:290). Taken together, the data indicate that individuals and groups struggled to maintain a balance between personal autonomy and equality as pressures on individuals and groups increasingly highlighted the problems of highly egalitarian societies. The conflict continued well beyond the appearance of horticultural villages, as demonstrated by the emphasis on community and similarity in Late Woodland secondary burials.

Eight previously identified archaeological sites located within a 1.0-mile radius of the project area may date to this period. These sites (44AB0041, 44AB0042, 44AB0411, 44AB0413, 44AB0414, 44AB0451, 44AB0455, and 44AB0456) represent lithic scatters,

camps, and one site of indeterminate function. None of these resources has been evaluated for potential NRHP eligibility. There is a low to moderate probability for identifying archaeological resources dating to the Middle Woodland period within the project area.

Late Woodland (A.D. 900–1600)

By the Late Woodland Period (A.D. 900-1600), the use of domesticated plants had assumed a role of major importance in the prehistoric subsistence system. The adoption of agriculture represented a major change in the prehistoric subsistence economy and settlement patterns. Expanses of arable land became a dominant settlement factor, and sites were located on fertile floodplain soils or, in many cases, on higher terraces or ridges adjacent to them. Diagnostic artifacts of this period include several triangular projectile point styles that originated during the later part of the Middle Woodland period and decreased in size through time. Ceramic types common in this region include Shepherd, Keyser, and Potomac Creek, as well as various other non-shell-tempered minority types with plain, cord- and fabric-marked surfaces.

Settlements during this period included both villages and small hamlets. Some villages were highly nucleated, while others were internally dispersed over a wide area; some were completely fortified by circular or oval palisades, others included a fortified core area and outlying houses, suggesting a rise in inter-group conflict. The more dispersed settlements were scattered over a wide area with indications of internally fluid settlement within a loosely defined town or village territory.

Drawings and journals of early European explorers describing Indian villages indicate that houses were constructed of oval, rectanguloid, or circular frameworks of flexible green sapling poles set in the ground, lashed together, and covered with thatch or bark mats. Burial sites of the period were situated in individual pits or in ossuaries. Such historical accounts are consistent with data obtained from archaeological excavations of Late Woodland village sites (i.e. Hodges and Hodges 1994).

With the development of a more sedentary settlement-subsistence system culminating in the Late Woodland Period, permanent habitation sites gradually replaced base camps, which were characteristic of earlier foragers and hunter-gatherers. Various supporting camps and activity areas were established in the daily procurement of food and other resources (i.e., short-term hunting and foraging camps, quarries, butchering locations, and re-tooling locations). Locations used partially or largely for ceremonial purposes were also present, usually in association with habitation sites.

The large base camps, hamlets, and villages are typically located on bluffs, terraces or high floodplains adjacent to rivers or major tributaries. Small seasonal camps and non-seasonally based satellite camps supporting nearby sedentary villages and hamlets are located along smaller streams in the interior. Limited concentrations and sparse scatters of lithics and ceramics typically characterized these campsites. The majority of the

Woodland sites that had been recorded at the time of the Barber et al. (1992) study were located along the major high order streams and rivers.

Eight previously identified archaeological sites located within a 1.0-mile radius of the project area may date to this period. These sites (44AB0041, 44AB0042, 44AB0411, 44AB0413, 44AB0414, 44AB0451, 44AB0455, and 44AB0456) represent lithic scatters, camps, and one site of indeterminate function. None of these resources has been evaluated for potential NRHP eligibility. There is a low to moderate probability for identifying archaeological resources dating to the Late Woodland period within the project area.

Settlement to Society (1607−1750)

When the first English settlers arrived at Jamestown in 1607, the project area was inhabited by the Ontponeas (Saponi) and the Tutelo who resided in the village of Monasukapanough near Charlottesville. Until 1722, European settlement in Albemarle County was limited to exploration and sparse settlements. An agreement signed by the Five Nations of the Iroquois in 1722 stating that the Iroquioan people would not cross the Potomac River essentially ended the threat of Indian attack in the Virginia Piedmont. With this threat removed, settlement of the area increased rapidly.

Originally encompassed by Goochland County, the western portion of what is now Albemarle was first settled by Europeans beginning in the early 1720s. The first land grants were based on the headright system, with 50 acres allotted for each planter, and additional land for each individual whose passage to Virginia they financed. During this period, settlement of "frontier" areas followed a predictable pattern, clustering initially along rivers and navigable creeks, then moving inland, as the most desirable land was exhausted (Moore 1976).

As Virginians increasingly moved west to take advantage of the newly opened lands, the population of this area grew rapidly enough to warrant the creation of a new county of Albemarle, carved from the western part of Goochland in 1744. During the first decades of settlement in Albemarle, it was tobacco that determined the pattern of nearly every aspect of life, encompassing the economy, the cultural landscape, and social relations. Despite the overwhelming focus on tobacco, however, Albemarle planters did produce a variety of other crops, including corn, oats, barley, buckwheat, rye, broom, hemp, and cotton (Kulikoff 1986; Moore 1976).

Despite the influx of settlers to the Albemarle County vicinity during the 1740s, historic maps from the period (Smith 1606, Herrmann 1673, and Senex 1749) do not extend as far as modern Albemarle County. There are no previously recorded archaeological sites dating to this period within a 1.0-mile radius of the project area. There is a low probability for identifying archaeological resources dating to this period within the project area.

Colony to Nation (1750−1789)

The Piedmont population continued to grow during this period and in 1761, Albemarle County was subdivided into several counties. The county seat was moved to a central location and the town of Charlottesville was established in 1762 (Moore 1976). A frame courthouse was soon constructed and the small community on the Rivanna River began to thrive.

In the late 1770s, Major Thomas Anburey, a British officer, spent time in Albemarle. His shrewd, and often unflattering, observations provide at least some insight into the character of the county and its inhabitants. To his eye, this country appeared "an immense forest interspersed with various plantations four or five miles distant from each other." Describing a typical Albemarle plantation, he wrote:

> On these there is a dwelling house in the center, with kitchen, smoke house and other outhouses detached . . . [having] the appearance of a small village . . . . Peach and apple orchards, . . . negroes' huts, and tobacco barns . . . large and built of wood for the cure of that article. The houses, mostly of wood with shingle roofs, often go unlathed and unplastered within, only those of the better sort being painted, and many having not brick but wooden chimneys coated inside with clay and, except for special cases, the windows with no glass, only wooden shutters. Most of the planters consign the care of their plantations and Negroes to an overseer . . . they are so abominably lazy. I'll give you a sketch of this man's way of living. He rises about eight o'clock, drinks what he calls a julep, which is a large glass of rum sweetened with sugar, then walks, or more generally rides, round his plantation, views his stock, inspects his crops, and returns about ten o'clock to breakfast on cold meat or ham, fried hominy, toast and cider; tea and coffee are seldom tasted but by the women. He then saunters about the house, sometimes amusing himself with the little negroes who are playing round the door, or else scraping on a fiddle. About twelve or one he drinks a toddy to create him an appetite for dinner, which he sits down to at two o'clock. After he has dined he generally lies down on the bed, rises about five . . . [and] commonly drinks toddy till bed time; during all this time he is neither drunk nor sober, but in a state of stupefaction. When he leaves his plantation to attend the Courthouse on Court Days or some horse races or cockfight, he gets so egregiously drunk his wife sends a couple of Negroes to conduct him safe home (Moore 1969:35).

In 1781, the state assembly fled Richmond and convened in Charlottesville to elect a new governor. With news of the approach of one of Cornwallis' detachments, the assembly again moved and adjourned in Staunton. The effects of the Revolutionary War in Charlottesville and Albemarle were felt only mildly though as Tarleton's troops entered town, they did take some prisoners and destroy public stores (Wyllie 1961).

A map produced by Lewis Evans in 1771 depicts Albemarle County and the vicinity of the Rivanna River, north of which the current project is located (Figure 3). While waterways and major roadways are depicted, there is no evidence of settlement in the immediate vicinity of the project area. There are no previously recorded archaeological sites dating to this period within a 1.0-mile radius of the project area. There is a low probability for identifying archaeological resources dating to this period within the project area.

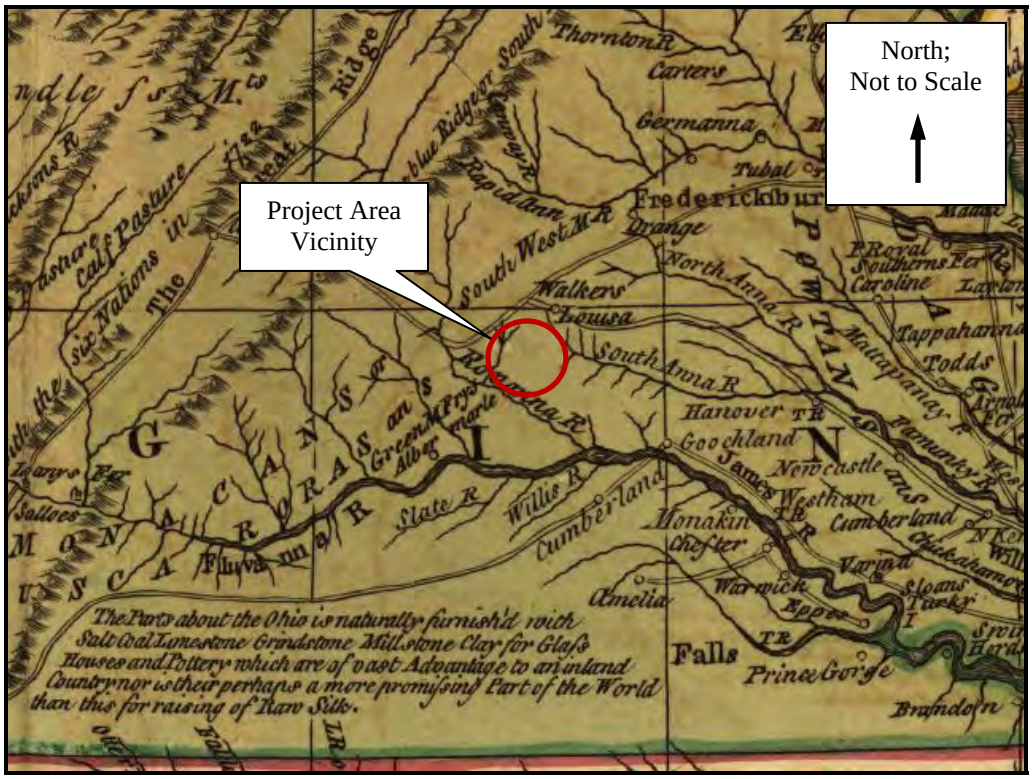

Figure 3. Detail of Evans' 1771 *A general map of the middle British colonies in America, viz. Virginia, Maryland, Delaware, Pensilvania, New-Jersey, New York, Connecticut & Rhode-Island* Depicting the Vicinity of the Project Area (Evans 1771; Library of Congress Geography and Map Division).

Early National Period (1789−1830)

By the 1790s, however, the exhaustion of agricultural land and the decline in tobacco markets overseas spelled the end of tobacco's economic dominance in Albemarle and throughout the Piedmont. Although Albemarle farmers continued to grow tobacco until the mid-nineteenth century, wheat and corn gradually emerged as the region's principal crops (Moore 1976).

The transition to grain agriculture was accelerated by the development of improved modes of transportation that allowed more rapid and economical shipment of farm produce to urban seaboard markets. Albemarle County's economy in the early part of the nineteenth century was boosted by the construction of one of Virginia's most successful

transportation projects, the James River and Kanawha Canal. As early as the 1780s, proponents of a canal linking the James River with the Ohio Valley-including George Washington-had lobbied the Virginia legislature to fund this project. An act to this effect was finally passed in 1785. By 1808 the James River Company had made improvements along a 220-mile stretch of the James from Richmond to Botetourt County. But consistent complaints about the condition of the route and financial difficulties prompted the Commonwealth to purchase the company's charter in 1820. Over the next 15 years, the state made extensive improvements to the system between Richmond and Goochland County. Virginia, in turn, had difficulty funding new construction, and the James River and Kanawha Canal Company, incorporated in 1832, took over operations in 1835. Overcoming serious flood damage in 1842, the canal reached its peak usage during the 1850s, with 195 boats, 867 employees, and 423 horses (Moore 1969; Agee 1962).

With growing population and commerce, modes of transportation were particularly important during this period. The construction of roads and turnpikes became increasingly regulated due to an act passed by the General Assembly in 1817. The act provided guidelines for the construction of bridges, the width of the new roads, and for maintenance (Pawlett 1977). In addition to these guidelines, tollgates were erected and tolls collected in order to maintain the new system of roads. By 1827, the first railroads had reached Virginia and several were chartered in 1830 and 1831 and between 1832 and 1837, 35 railroad companies were chartered (Pawlett 1977).

A map produced around 1796 (Bradley 1796?) depicts Albemarle County and the city of Charlottesville. However, the map has no detail interior to the county and no evidence of settlement is apparent in the vicinity of the project area (Figure 4). Two previously identified archaeological sites within a 1.0-mile radius of the project area date to this period. Site 44AB0040 is a nineteenth century site of indeterminate function while Site 44AB0415 is a nineteenth century cemetery. Neither site has been evaluated for potential NRHP eligibility. There is a low probability for identifying archaeological resources dating to this period within the project area.

Antebellum Period (1830−1861)

During this period, commerce and development of adequate transportation appears to be the predominant theme. In the early years of the nineteenth century, residents in the vicinity of the study area were served by a branch of Three Notched Road, which ran west from Charlottesville through Hillsboro, later known as Yancey's Mill. Construction of the first rail line in Albemarle began in the late 1840s with the inception of the Virginia Central Railroad. Beginning at Gordonsville, the line had reached the Blue Ridge Mountains by 1854, providing regular and economical rail service for the residents of western Albemarle (Moore 1976). A second rail line, the Orange and Alexandria, linked Charlottesville and Albemarle County to Gordonsville and Lynchburg.

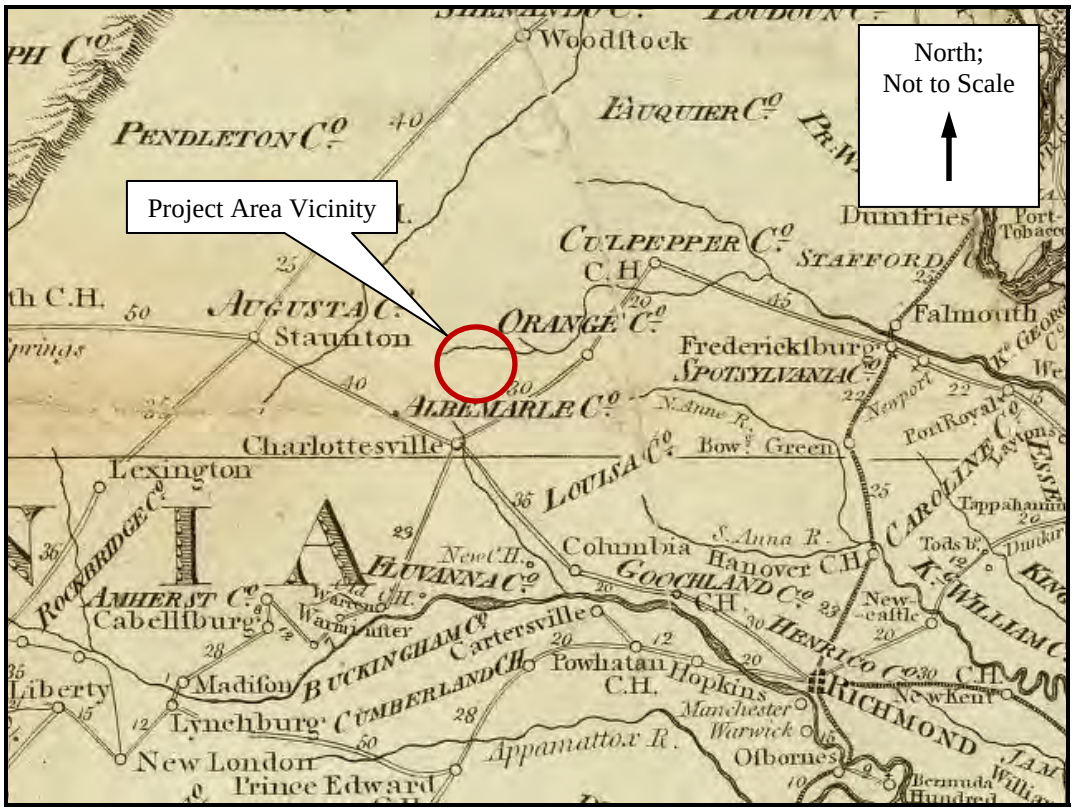

Figure 4. Detail of Bradley's 1796? ***A map of the United States exhibiting post roads & distances: the first sheet comprehending the nine north states, with parts of Virginia and the territory north of Ohio/by Abraham Bradley Junr.; W. Harrison Junr., sc.*** **Depicting the Vicinity of the Project Area (Bradley 1796?; Library of Congress Geography and Map Division**).

Hotchkiss' 1875 *Geological map of Virginia and West Virginia* depicts the project area vicinity but has little detail. Charlottesville, located southwest of the current project area is shown, as are the Rivanna River and a number of additional towns, roadways, and railroads throughout the general vicinity. However, no evidence of settlement in the immediate vicinity of the project area is shown (Figure 5).

Three previously identified archaeological sites within a 1.0-mile radius of the project area date to this period. Site 44AB0040 is a nineteenth century site of indeterminate function, Site 44AB0415 is a nineteenth century cemetery, and Site 44AB0514 is a trash scatter dating to the second half of the nineteenth through the twentieth century. None of these sites has been evaluated for potential NRHP eligibility. There is a low probability for identifying archaeological resources dating to this period within the project area.

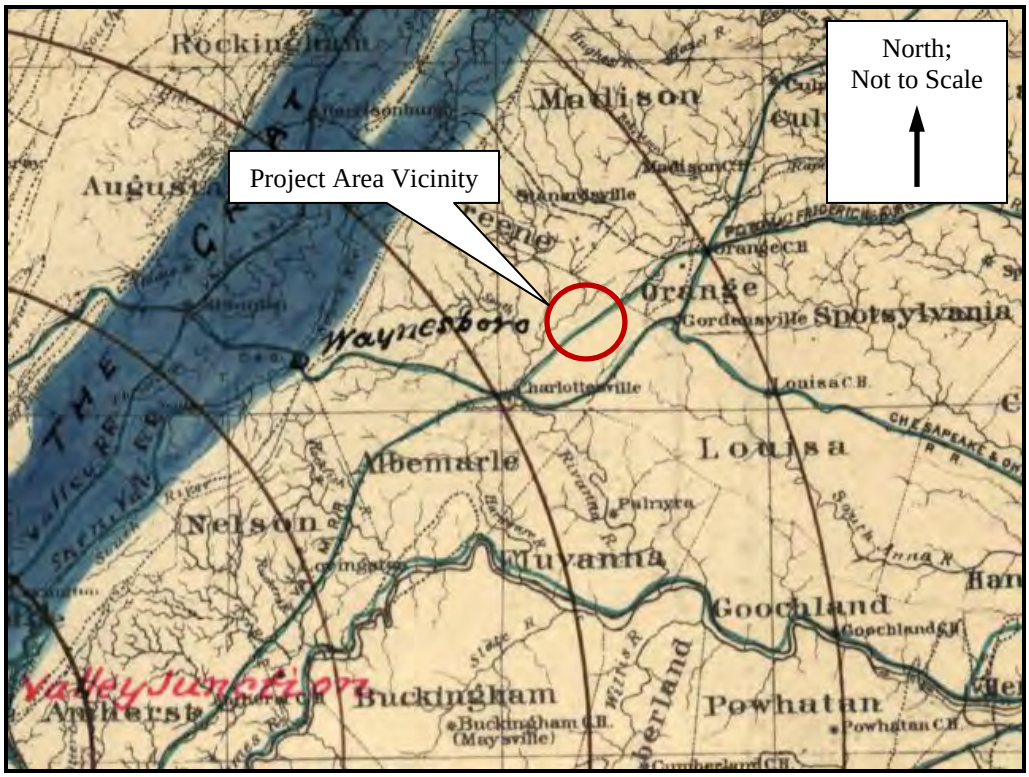

Figure 5. Detail of Hotchkiss' 1835-1841 *Geological map of Virginia and West Virginia* Depicting the Vicinity of the Project Area (Hotchkiss 1875; Library of Congress Geography and Map Division).

The Civil War (1861−1865)

Military operations in Albemarle County were extremely limited during the Civil War, and other than the Federal occupation of Charlottesville in 1864, activity was confined mainly to troop movements. No known military engagements occurred in the vicinity of the study area, though a number of battles were fought in surrounding counties. Charlottesville was known primarily for its military hospitals (Robertson 1982).

Non-military maps from this period indicate local roads and mills in the vicinity of the overall project area (Lloyd 1861) (Figure 6). As time went on, the Union Army's engineers became more familiar with the Virginia Piedmont and the accuracy of their maps improved. Not surprisingly, the most topographically sensitive and accurate maps that include the project area were made by Confederate cartographers, men who would have had firsthand knowledge of the area they were depicting. These maps show no evidence of settlement within the project area (Figures 7 and 8).

Three previously identified archaeological sites within a 1.0-mile radius of the project area date to this period. Site 44AB0040 is a nineteenth century site of indeterminate function, Site 44AB0415 is a nineteenth century cemetery, and Site 44AB0514 is a trash scatter dating to the second half of the nineteenth through the twentieth century. None of these sites has been evaluated for potential NRHP eligibility. There is a low probability for identifying archaeological resources dating to this period within the project area.

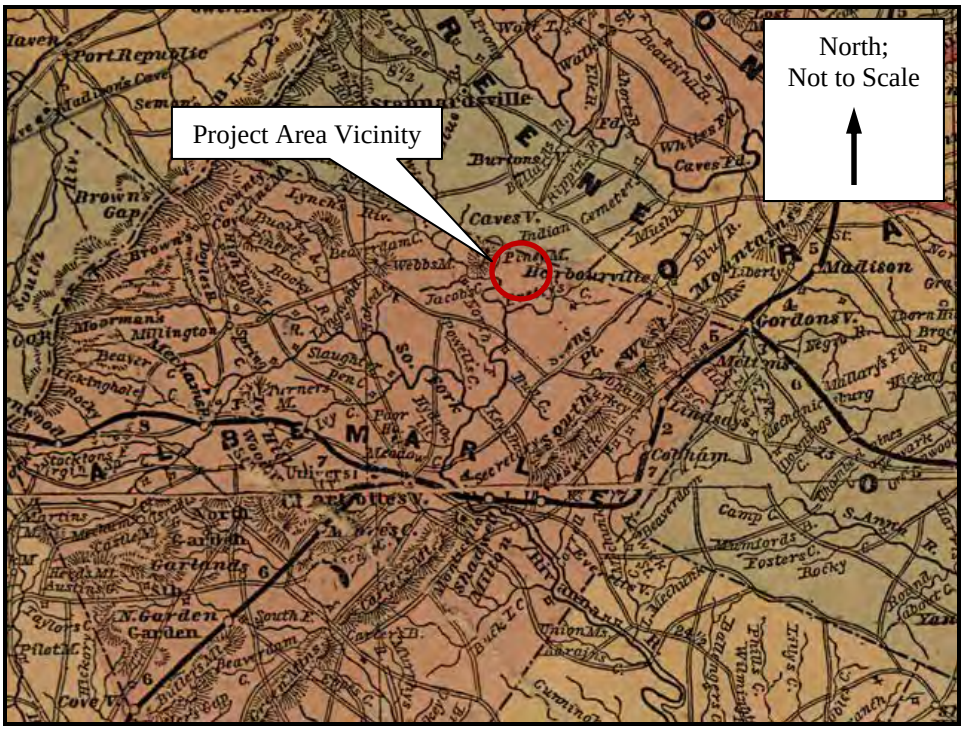

Figure 6. Detail of Lloyd's 1861 *Lloyd's official map of the state of Virginia from actual surveys by order of the Executive 1828 & 1859* Depicting Mills in the Vicinity of the Project Area (Lloyd 1861; Library of Congress Geography and Map Division).

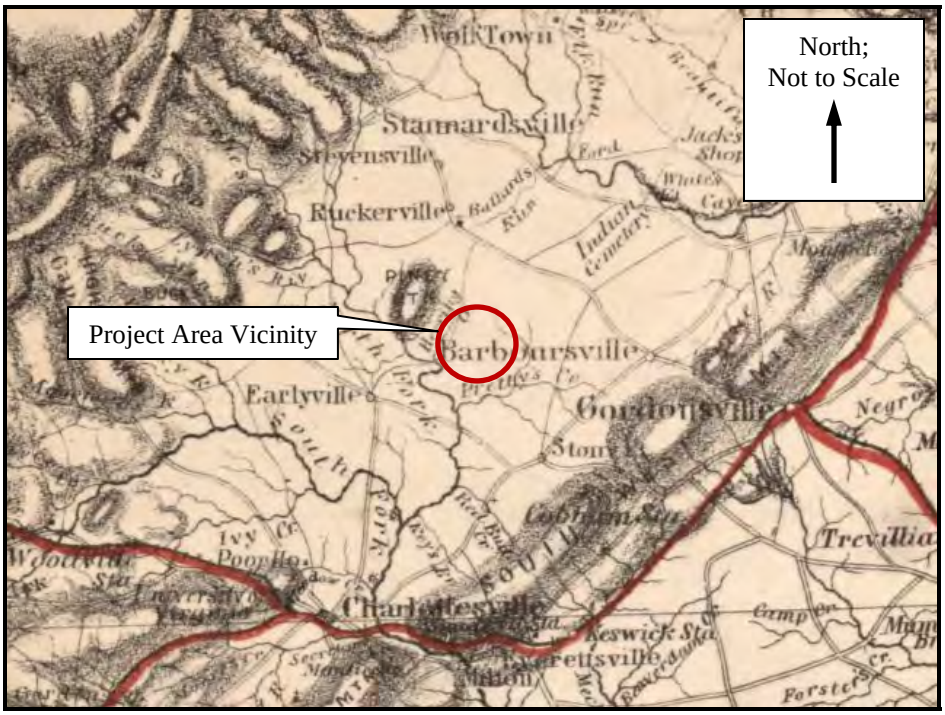

Figure 7. Detail of H. Lindenkohls' 1865 *Military Map of south-western Virginia & North Carolina/U.S. Coast Survey, A.D. Bache, Supdt.; drawn by H. Lindenkohl; Chas. G. Krebs, lith.* Depicting the Vicinity of the Project Area (Lindenkohl 1865; Library of Congress Geography and Map Division).

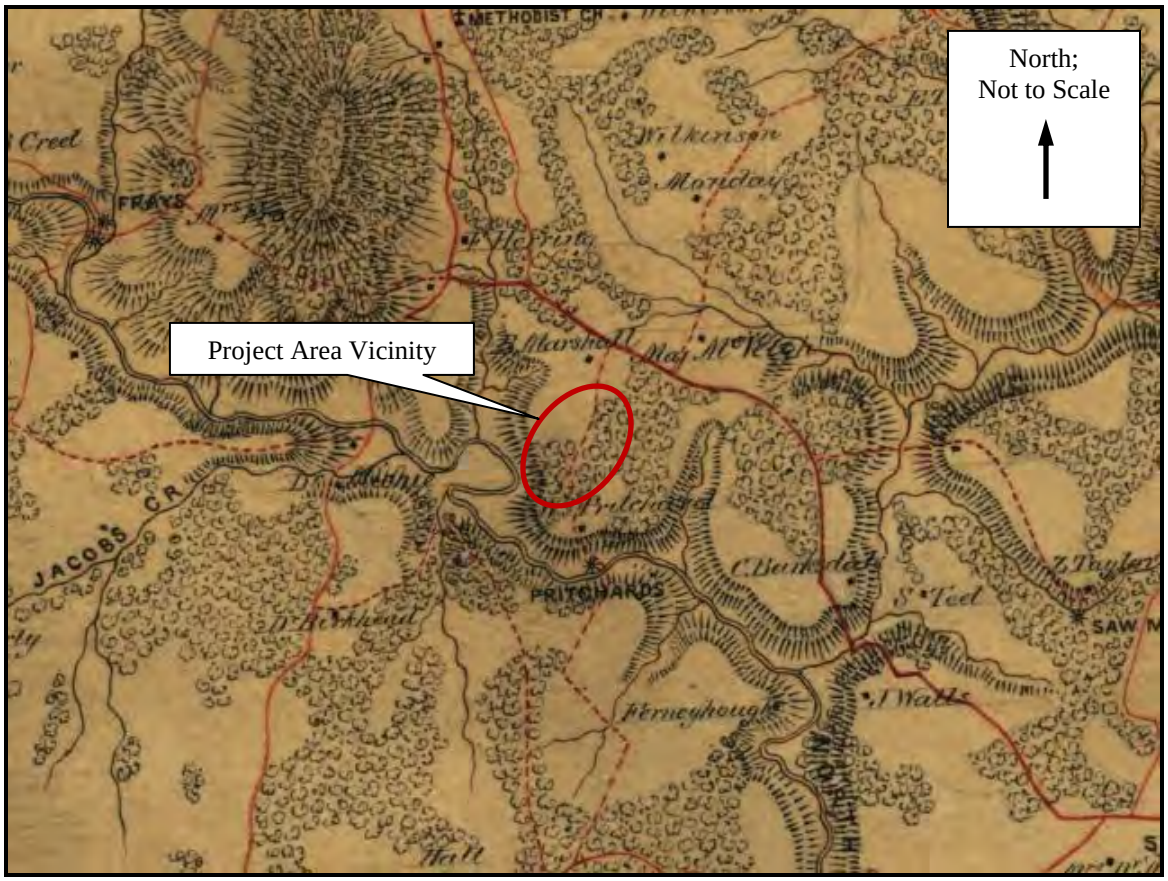

Figure 8. Detail of *Map of Albemarle : Made under the direction of Maj. A.H. Campbell Capt. Engs. in charge of Top. Dept. D.N.V. from surveys and reconnaissances / by C.S. Dwight Lt. Engrs. P.A.* Depicting the Project Area Vicinity (Chief Engineer's Office D.N.V. 1864; Library of Congress Geography and Map Division).

Reconstruction and Growth (1865−1917)

Four years of war had a devastating effect on Virginia, and Albemarle County was no exception. The combined loss of manpower and draft animals, the neglect of agricultural land, and the emancipation of the slave population had a detrimental effect on the county's economic and social landscape in the postwar era. Over the following years, property values plummeted. Land that had sold for $10 per acre decreased in price was now being sold for only a dollar or two per acre. In fact, the real estate market was so depressed that during their 1869-70 session the General Assembly enacted a law prohibiting the sale of land for less than 75.0 percent of its assessed value (Kaplan 1993).

In a pattern reminiscent of the early nineteenth century, postwar agricultural difficulties prompted Albemarle farmers to seek alternative sources of income. The solution for many was to turn to fruit production, and Albemarle rapidly became a center for the production of apples, peaches, cherries, and strawberries (Moore 1976).

Lumbering was also a mainstay of the economy during this period. After the Civil War, thousands of acres were abandoned and reverted back to forest. This increase in wood resources resulted in the operation of four sawmills in Albemarle County by 1875. Three of the four mills were located in the western part of the county while the Rio Mill serviced the Charlottesville area and points eastward (Tice 1987).

Lumbering eventually took its toll on the natural resources of the area. By 1875, the demand for forest conservation resulted in the establishment of the American Forestry Association. The US Forest Service was formed in 1904 and was followed by the establishment of the Virginia Forest Service in 1907 (Tice 1987).

At the turn of the century, transportation again became a major focus in Virginia. This renewed interest arose due to the increased popularity of motor cars and the demand for better and well-maintained roads. The interest in transportation resulted in the formation of the State Highway Commission in 1906 followed by the enactment of a law allowing federal participation in the construction of interstate highways in 1916 (Wallenstein 1991). Residents of the town of Charlottesville and Albemarle County wanted to assure that a major road would pass through the area and their efforts were rewarded as US 29 and US 250 intersect in Charlottesville.

Maps produced during this period (Hotchkiss 1867 and Peyton 1875) depict the project area as uninhabited land. Hotchkiss' map does show roads and residences in the surrounding area while the Peyton map depicts Pritchetts Mill southeast of the project area (Figures 9 and 10).

Four previously identified archaeological sites within a 1.0-mile radius of the project area date to this period. Site 44AB0040 is a nineteenth century site of indeterminate function, Site 44AB0415 is a nineteenth century cemetery, Site 44AB0514 is a trash scatter dating to the second half of the nineteenth through the twentieth century, and Site 44AB0528 is a cemetery dating from the fourth quarter of the nineteenth century to the first half of the twentieth century. None of these sites has been evaluated for potential NRHP eligibility. There is a low probability for identifying archaeological resources dating to this period within the project area.

World War I to World War II (1917−1945)

In the 1920s, tourism became a major factor in Albemarle County as Thomas Jefferson's home, Monticello, was acquired by the Thomas Jefferson Memorial Foundation and was opened to the public (Moore 1976). In addition, the Michie Tavern was moved from its original location to Monticello Mountain and was also opened as a tourist attraction. Charlottesville also became home to an annual auto show and construction of a municipal airport was the buzz around town. The airport was constructed in 1929 to the northwest of Charlottesville (Moore 1976).

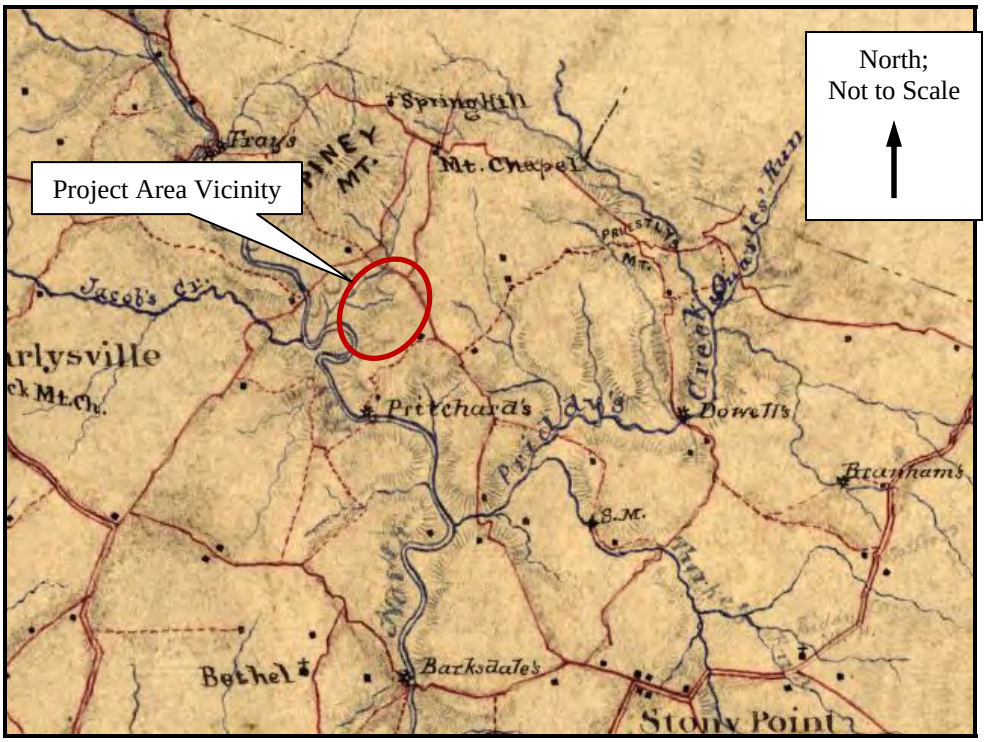

Figure 9. Detail of *Albemarle County, Virginia by Jed. Hotchkiss, Top. Eng.* Depicting the Project Area Vicinity (Hotchkiss 1867; Library of Congress Geography and Map Division).

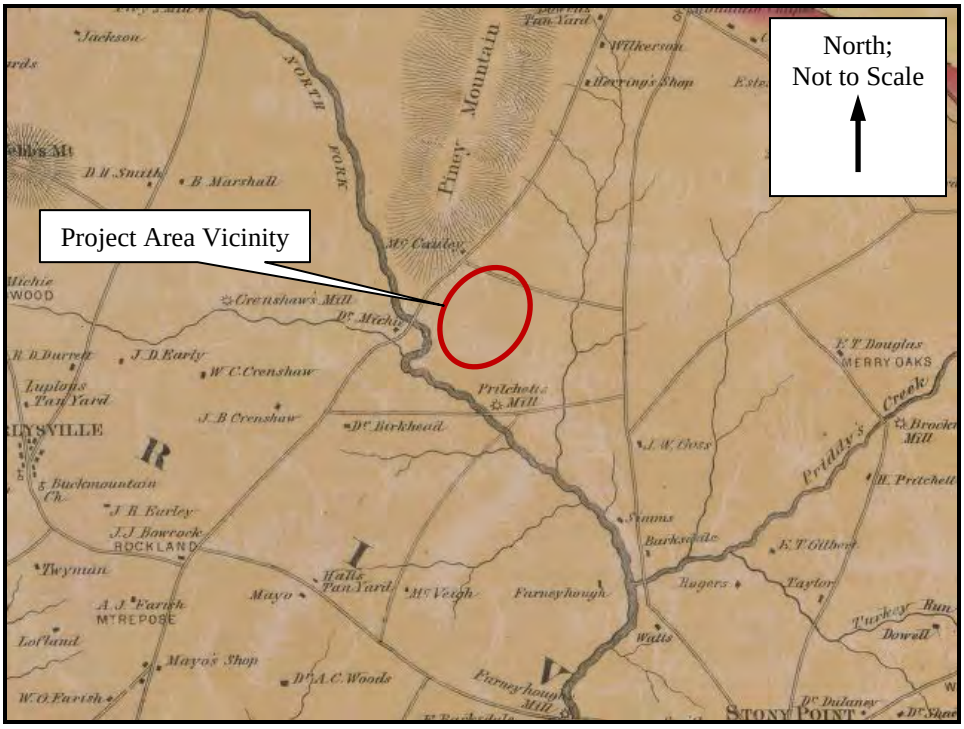

Figure 10. Detail of *A map of Albemarle County, Virginia / from original surveys by G. Peyton, C.E.* Depicting the Project Area Vicinity (Peyton 1875; Library of Congress Geography and Map Division).

Two previously identified archaeological sites within a 1.0-mile radius of the project area date to this period. Site 44AB0412 is a twentieth century single dwelling and Site 44AB0528 is a cemetery dating from the fourth quarter of the nineteenth century to the first half of the twentieth century. Neither of these sites has been evaluated for potential NRHP eligibility. There is a low probability for identifying archaeological resources dating to this period within the project area.

The New Dominion (1945−Present)

In the postwar decades, agriculture remained the mainstay of the Albemarle county economy until the mid-twentieth century when the fruit industry began to wane. At that point the University of Virginia grew and began to play a larger economic role in Charlottesville. The population has since increased significantly. More people meant more housing, and a significant amount of rural land was encompassed by suburban development on the fringes of the rapidly growing area.

Two previously identified archaeological sites within a 1.0-mile radius of the project area date to this period. Site 44AB0412 is a twentieth century single dwelling and Site 44AB0528 is a cemetery dating from the fourth quarter of the nineteenth century to the first half of the twentieth century. Neither of these sites has been evaluated for potential NRHP eligibility. There is a low probability for identifying archaeological resources dating to this period within the project area.

IV. RESEARCH DESIGN

Objectives

The Phase I cultural resources survey was designed to locate and identify all archaeological resources within the project area. CRI designed the survey to obtain sufficient information to make recommendations about the research potential of identified cultural resources based on the resource's potential eligibility for listing on the NRHP. A cultural resource is gauged to be significant if it meets at least one of four National Register criteria:

A. Associated with significant events in the broad patterns of national history.

B. Associated with the lives of persons significant in our past.

C. Representative of a type, period, or method of construction, or the work of a master.

D. Capable of yielding important information about the past.

Criterion D typically applies to archaeological sites. In order to be capable of yielding important information about the past, generally a site must possess artifacts, soil strata, structural remains, or other cultural features that make it possible to test historical hypotheses, corroborate and amplify currently available information, or reconstruct the sequence of the local archaeological record.

Archival Research

The background research for the Phase I cultural resources survey included an on-site review of the VDHR archives and of data collected from the VDHR Virginia Cultural Resource Information System (V-CRIS). The VDHR files of archaeological sites and historic structures were examined and information was retrieved on all sites or structures located within a 1.0-mile radius of the project area. Background research also focused on relevant sources of local historical information and available historical maps, which were examined to provide an historical context for the project area and to check for any buildings and other cultural features present within the project area.

Previous Investigations

Archaeological Sites

A total of 13 previously recorded archaeological sites are located within a 1.0-mile radius of the project area. No previously recorded archaeological sites are located within the project area. Of these sites, seven are prehistoric, five are historic, and one is multi-

component. None of these resources has been formally evaluated by VDHR for potential eligibility for listing to the NRHP (Table 2; Figure 11).

Table 2. Archaeological Resources Located Within a 1.0-Mile Radius of the Project Area

Site	Resource Type	Association	Reference	NRHP Recommendation
44AB0040	Indeterminate	19th c.	Holland 1966	Not Evaluated
44AB0041	No Type Recorded	Prehistoric Unknown	WMCAR 1997; Wittkofski 1984; Finley 1966	Not Evaluated
44AB0042	Indeterminate	Prehistoric Unknown; Historic Unknown	WMCAR 1997; Wittkofski 1984; Jeffries 1966	Not Evaluated
44AB0411	Lithic Scatter	Prehistoric Unknown	WMCAR 1997; Browning & Associates 1992	Not Evaluated
44AB0412	Single Dwelling	20th c.	Browning & Associates 1992	Not Evaluated
44AB0413	Lithic Scatter	Prehistoric Unknown	Browning & Associates 1992	Not Evaluated
44AB0414	Lithic Scatter	Prehistoric Unknown	Browning & Associates 1992	Not Evaluated
44AB0415	Cemetery	19th c.	Browning & Associates 1992	Not Evaluated
44AB0451	Camp	Prehistoric Unknown	WMCAR 1997	Not Evaluated
44AB0455	Camp	Prehistoric Unknown	WMCAR 1997	Not Evaluated
44AB0456	Camp	Prehistoric Unknown	WMCAR 1997	Not Evaluated
44AB0514	Trash Scatter	2nd Half 19th to 20th c.	CRI 2003	Not Evaluated
44AB0528	Cemetery	4th Quarter 19th to 1st Half 20th c.	CRI 2006	Not Evaluated

Sites 44AB0040, 44AB0041, and 44AB0042 were originally recorded in 1966 by C.G. Holland and students from the University of Virginia (UVA). The site information on file at UVA was transferred to official survey forms in 1984 by J. M. Wittkofski. Site 44AB0040 was described as the remains of a stone chimney and foundation with a scatter of artifacts across the surface. Glass, iron, china, aluminum, and plastic were the documented artifacts. The stone foundation measured 10.0-x-16.0 feet. Site 44AB0041 was recorded as an Archaic site on the north bank of North Fork Rivanna River. The site measured approximately 75.0 feet in diameter and artifacts reported included a broken point, broken drill fragments, and flakes. Site 44AB0042 was documented as a Colonial and Archaic period site and artifacts recovered included lithic points, choppers, gunflints, scrapers, and knives. The lithic tool assemblage was primarily of quartz and the site measured roughly 30.0-x-75.0 feet. Recommendations on the site form were for excavation of a feature and surface collection.

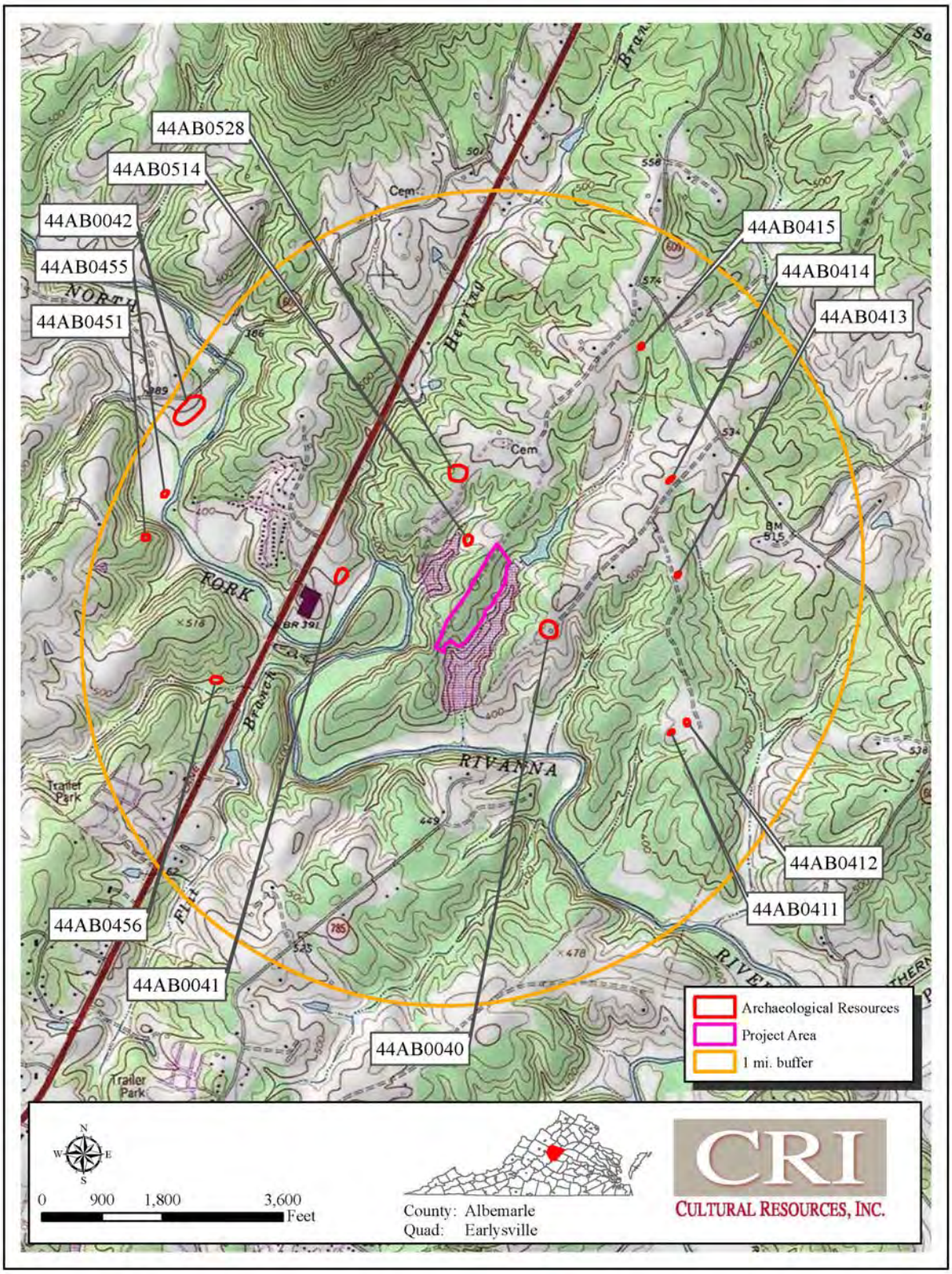

Figure 11. Previously Recorded Archaeological Sites Located within a 1.0-Mile Radius of the Project Area.

During the archaeological survey for the Piney Mountain Project 115 kV Line conducted by Browning and Associates in 1992, five archaeological sites were recorded within a 1.0-mile radius of the current project area (Taylor and Browning 1992). The survey covered a 4.5-acre parcel for the substation site as well as 4.35-mile corridor for the transmission line and 3000.0-foot access road. The archaeological sites included three prehistoric lithic scatters of indeterminate temporal affiliation (44AB0411, 44AB0413, and 44AB0414), one twentieth century single dwelling (44AB0412), and one nineteenth century cemetery (44AB0415). No further work was recommended for any of the sites and it was recommended that the cemetery be avoided during the construction (Taylor and Browning 1992).

In 1997, the William and Mary Center for Archaeological Research (WMCAR) conducted a survey for the proposed University of Virginia Research Park Project. During this investigation, WMCAR identified three archaeological sites within a 1.0-mile radius of the project area. All three sits (44AB0451, 44AB0455, and 44AB0456) were recorded as prehistoric camps of indeterminate temporal affiliation though a survey report is not on file at the VDHR. Information regarding the sites recorded during this survey is available only on the site forms. Site 44AB0451 yielded quartz and quartzite flakes and shatter fragments and was recommended potentially eligible for listing on the NRHP by WMCAR since a possible intact cultural level was discovered in the shovel tests. Site 44AB0455 was also recommended as potentially eligible and yielded flakes and shatter; a possible intact cultural level was identified. Site 44AB0456 was recommended as not eligible as it was recorded as a small Native American artifact scatter in an area that had been heavily disturbed by timbering activities. Despite WMCAR's recommendations, VDHR has not formally evaluated any of these resources for potential NRHP eligibility.

In 2003, CRI conducted a Phase I investigation for proposed expansions to the Rivanna Station facility. This survey resulted in the identification of one late nineteenth to twentieth century trash scatter (44AB0514). Three years later, in 2006, CRI conducted additional survey in the vicinity of the current project area and identified Site 44AB0528. Site 44AB0528 is a cemetery dating from the late nineteenth to the early- to mid-twentieth century. Neither resource has been formally evaluated for potential NRHP eligibility by VDHR.

Architectural Resources

A total of eight previously recorded architectural resources are located within a 1.0-mile radius of the project area. No previously recorded architectural resources are located within the project area. Of these resources, two date to the early nineteenth century and five resources date to the early twentieth century. One resource has no recorded temporal affiliation. Six of the eight resources have not been formally evaluated by VDHR for potential eligibility for listing to the NRHP. One resource has been evaluated by VDHR and determined to be not eligible for NRHP inclusion while one resource was listed to the Virginia Landmarks Register (VLR) in 2006 and the NRHP in 2007 (Table 3; Figure 12).

Table 3. Architectural Resources Located Within a 1.0-Mile Radius of the Project Area				
Site	**Resource Type**	**Association**	**Reference**	**NRHP Recommendation**
002-0001	Bel Aire	c. 1820	Baynard & Hallock 2006; Lay 1988; Mickler 1979	NRHP Listed (2007); VLR Listed (2006)
002-0538	Truss Bridge #6013, Rt. 606 & North Fork of Rivanna River	Post 1900	Baynard & Hallock 2006; Mickler 1979	Not Eligible (VDHR 1997)
002-1411	Corncrib, Rt. 606	c. 1915	O'Dell 1984	Not Evaluated
002-1440	Michie Farm Ruins	No Associated Recorded	CRI 2006; O'Dell n.d.	Not Evaluated
002-1642	House, Rt. 574	c. 1900	Browning & Associates 1993; John Milner & Associates 1988	Not Evaluated
002-1644	House, Rt. 600	Post 1800	John Milner & Associates 1988	Not Evaluated
002-1645	House, Rt. 600	c. 1920	John Milner & Associates 1988	Not Evaluated
002-5044	Pritchett Family Cemetery, Seminole Trail	c. 1913	CRI 2006 & 2003	Not Evaluated

In 1979, two architectural resources were identified within a 1.0-mile radius of the current project area. One resource, Bel Aire (VDHR #002-0001), dates to circa 1820 while the other resource, truss bridge #6013 (VDHR #002-0538), is post-1900 in date. Both resources were revised by Baynard and Hallock in 2006 with VDHR #002-0001 listed to the VLR in 2006 and listed to the NRHP in 2007. The bridge (VDHR #002-0538) was determined by VDHR to be not eligible for NRHP inclusion in 1997.

In 1984, Jeff O'Dell recorded two resources in the vicinity of the current project area. One resource, a corncrib (VDHR #002-1411), is a contributing component to the NRHP-listed Bel Aire (VDHR #002-0001). The corncrib dated to circa 1915 and has not been individually evaluated for NRHP eligibility. The second resource identified by O'Dell is the Michie farm ruins (VDHR #002-1440). No date is recorded for this resource which was subject to additional survey by CRI in 2006. VDHR #002-1440 has not been formally evaluated to potential NRHP eligibility.

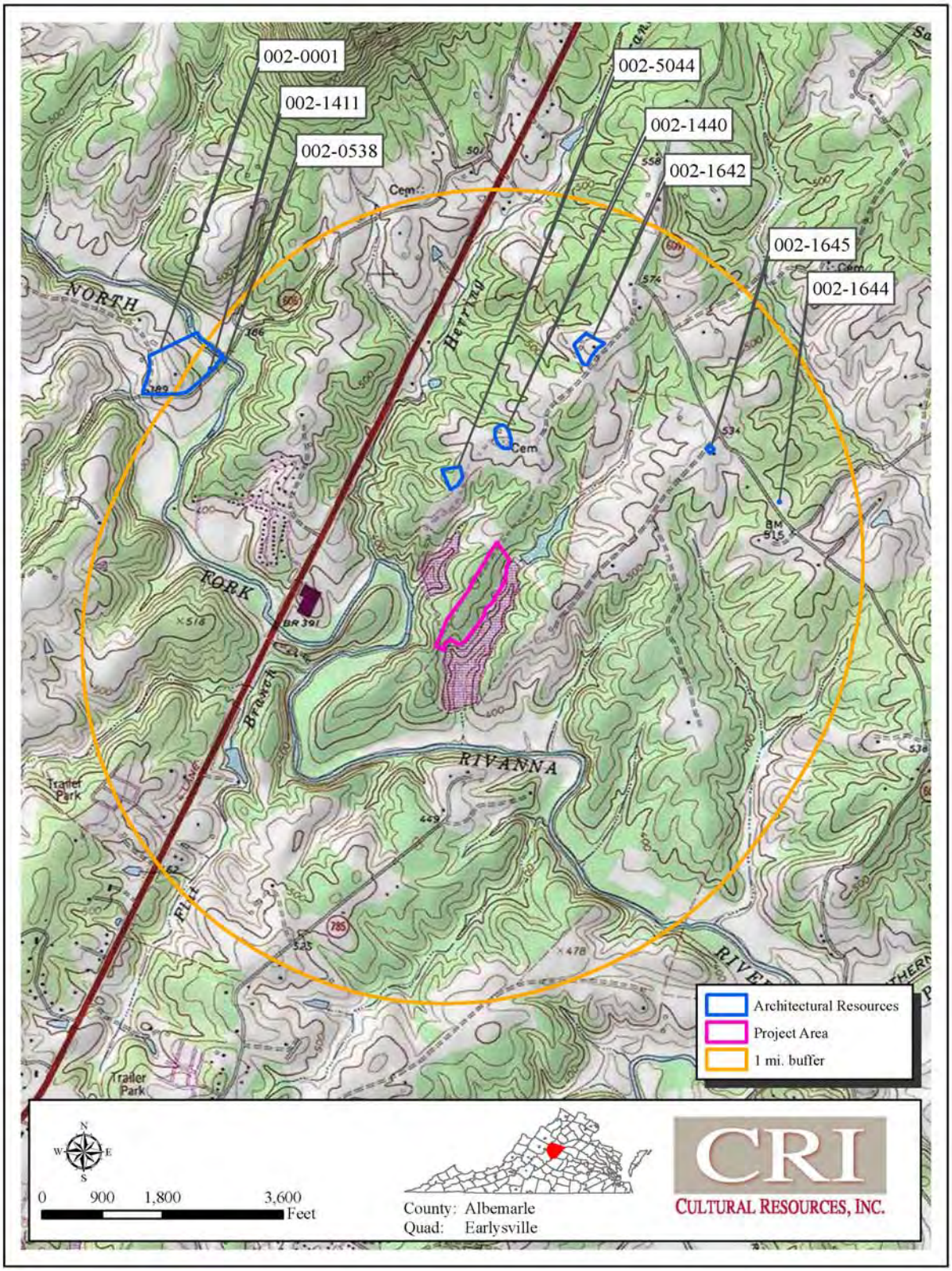

Figure 12. Previously Identified Architectural Resources Located within a 1.0-Mile Radius of the Project Area.

Three architectural resources were identified within a 1.0-mile radius of the project area by John Milner and Associates in 1988. All three resources are houses, including one circa 1920 house (VDHR #002-1642), one post-1800 house (VDHR #002-1644), and one circa 1920 house (VDHR #002-1645). Resource VDHR #002-1642 was revisited in 1993 by Browning and Associates but all three resources remain unevaluated for NRHP eligibility.

Finally, CRI conducted architectural survey in the vicinity of the current project area in 2003 and identified one resource, the Pritchett family cemetery (VDHR #002-5044). The cemetery was constructed in circa 1913 and was subject to additional survey by CRI in 2006. VDHR #002-5044 has not been formally evaluated by VDHR for potential NRHP eligibility.

Phase I Archaeological Survey

Field Methods

The Phase I field survey strategy consisted of systematic surface evaluation and subsurface testing of the entire 14.0-acre project area. Shovel tests were excavated at 50.0-foot intervals along nine transects spaced 50.0 feet apart, unless precluded by marked cultural disturbance, steep slopes or in wet or waterlogged areas. Radial shovel tests, excavated at 25.0-foot intervals, were placed around positive shovel tests in order to aid in the delineation of site boundaries and cultural deposits. All shovel tests were at least 1.0 foot in diameter and were excavated to sterile subsoil. Soil from each shovel test was screened through ¼-inch hardware cloth, and representative stratigraphic soil profiles were recorded on standardized forms using Munsell color designators (Munsell Color 1994) and U. S. Department of Agriculture soil texture terminology (Elder 1989). The location of each shovel test pit was recorded on a survey map of the project area.

Definitions

Archaeological resources were classified as *archaeological sites* and *isolated archaeological finds*. An *archaeological site* is regarded as any apparent location of human activity not limited to simple loss, casual or single-episode discard, and having sufficient archaeological evidence to indicate that further testing would produce interpretable archaeological data.

In contrast, an *isolated archaeological find* is defined as an area marked by surface indications and little else, and/or limited to simple loss, casual or single-episode discard which has low potential of possessing interpretable archaeological resources. Some areas with archaeological resources determined may be recorded as *locations*. Examples of *locations* would be isolated projectile point finds, or scatters of not more than three to five historic artifacts. Locations may also be defined as isolated finds of questionable or non-diagnostic lithic material, such as possible fire-cracked rock or debitage.

In application, both of these definitions require a certain degree of judgment in the field and consideration of a number of variables. Contextual factors such as prior disturbance and secondary deposition must be taken into account. The representativeness of the sample, as measured by such factors as the degree of surface exposure and shovel test interval, must also be considered when determining the nature of an archaeological resource. Both archaeological sites and isolated finds should ultimately be accorded serious consideration as potentially important traces of past human activity. Architectural resources include all standing structures or buildings that are 50 years of age or older.

Report Preparation

The results of the archival research, fieldwork, and laboratory analysis are synthesized and summarized in this report. The report describes the results of each of these facets of the Phase I survey research and is illustrated by selected maps and drawings.

Expected Results

Native American sites are generally found within 1,000.0 to 1,500.0 feet of a significant water source, on moderately well- to well-drained soils on low relief landforms. The project area is located within gently sloping to steeply sloping woodlands and open agricultural fields along the northern bank of Green's Pond, a man-made water source. There is a low to moderate probability for finding Archaic period sites and Middle to Late Woodland temporary camps in the project area.

The project area is situated within woodland and open fields along the bank of Green's Pond. Green's Pond is a man-made reservoir that does not appear on historic maps. The banks feature steeply sloping terraces. As historic map review has shown, there has been little to no historic development within the project area or its immediate vicinity. There is a low probability for finding additional historic sites in the project area.

V. ARCHAEOLOGICAL SURVEY RESULTS

Shovel Testing

Encompassing approximately 14.0 acres, the project area is located on a partially wooded bench above the western bank of Green's Pond. The project area is bounded on the west by a road associated with the JUIAF, on the east by Green's Pond, and on the northeast and southwest by woodlands. The project area exhibited relatively level terrain along its western edge, increasing in slope as it approached Green's Pond (Figures 13−17).

Figure 13. General View of the Western Edge of the Project Area with Gravel Access Road and Fence at Right; View to the Southwest.

Figure 14. View of the Wooded Western Portion of the Project Area with Exposed Bedrock and Boulders on the Surface; View to the Southeast.

Figure 15. Gently Sloping Open, Grassy Area beside Green's Pond at the Southern End of the Project Area; View to the Southeast.

Figure 16. Steeply Sloped Western Bank of Green's Pond; View to the Northeast.

Figure 17. Steeply Sloped Wooded Area with Boulders on Surface; View to the Northwest.

Shovel tests were excavated at 50.0-foot intervals along nine transects (Transects A−I) spaced 50.0 feet apart. Shovel tests were not excavated in areas that exhibited disturbance, slope or wetlands. A total of 122 shovel tests was excavated throughout the project area with no shovel tests positive for cultural material. A total of 129 shovel tests was not excavated due primarily to steep slope but also due to the presence of gravel access roads and exposed bedrock. No new isolated archaeological finds or new archaeological sites were identified during this effort (Figure 18).

Soil profiles throughout the project area generally consisted of two to three strata in profile. A representative shovel test from the northwestern wooded portion of the project area consisted of two strata in profile. Stratum I was characterized as a layer of 7.5YR4/6 strong brown silty loam and extended in depth from approximately 0 to 0.4 feet below ground surface. Stratum I was underlain by Stratum II, a layer of 5YR5/6 yellowish red culturally sterile silty clay subsoil. Stratum II was excavated from approximately 0.4 to 0.9 feet in depth.

A second representative shovel test from the southwestern open portion of the project area consisted of two strata in profile. Stratum I was characterized as a layer of 10YR4/6 dark yellowish brown silty clay loam and extended in depth from approximately 0 to 0.3 feet below ground surface. Stratum I was underlain by Stratum II, a layer of 7.5YR5/6 strong brown culturally sterile compact clay subsoil. Stratum II was excavated from approximately 0.3 to 0.8 feet in depth.

A third representative shovel test from the eastern edge of the project area consisted of three strata in profile. Stratum I was characterized as a layer of 10YR3/4 dark yellowish brown silty loam and extended in depth from approximately 0 to 0.2 feet below ground surface. Stratum I was underlain by Stratum II, a layer of 10YR4/6 dark yellowish brown silty clay loam that extended from approximately 0.2 to 0.6 feet below ground surface. Underlying Stratum II was Stratum III, a layer of 10YR6/8 brownish yellow culturally sterile silty clay subsoil with bedrock. Stratum III was excavated from approximately 0.6 to 0.9 feet in depth.

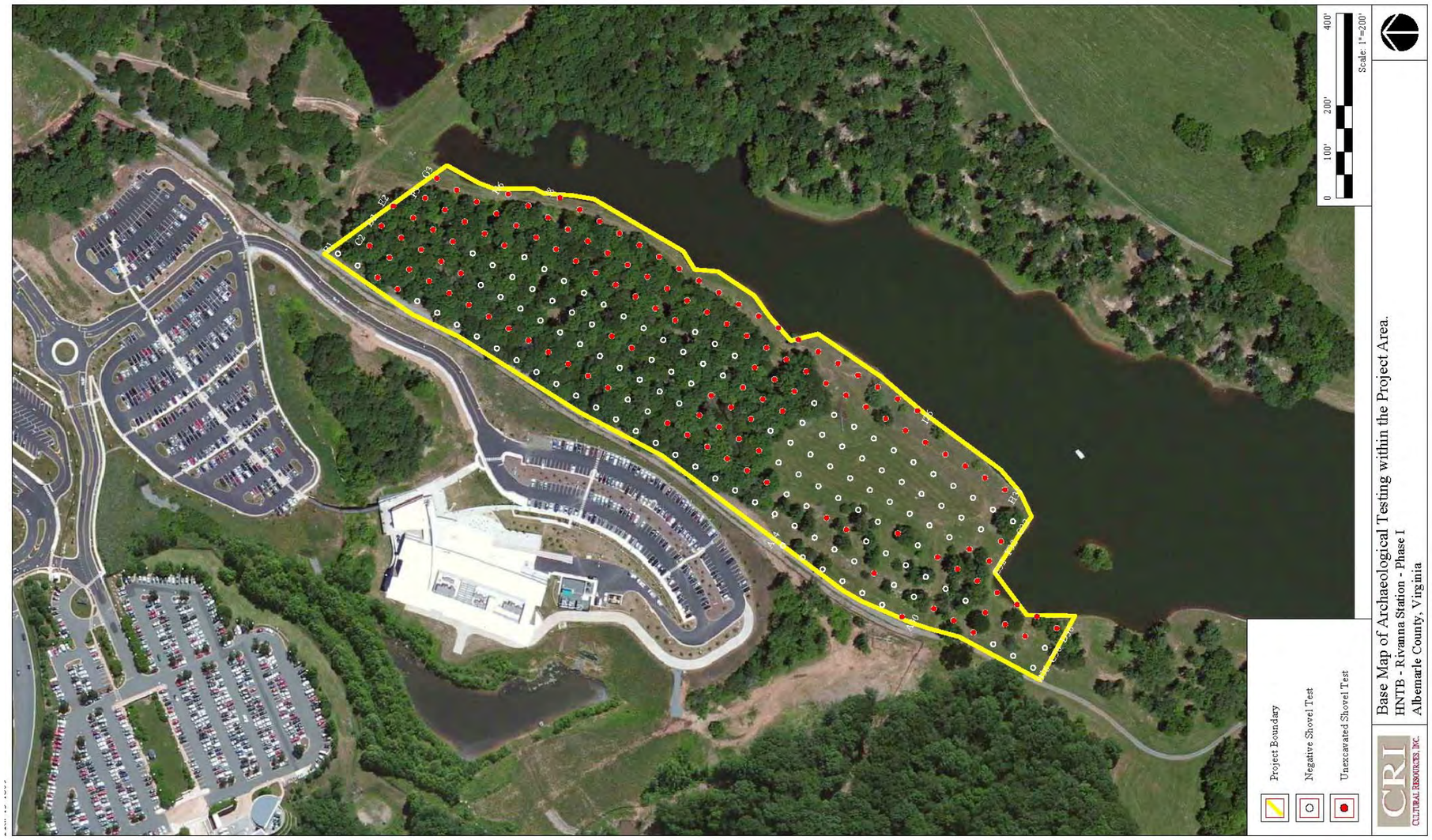

Figure 18. Base Map of Archaeological Testing within the Project Area Illustrating the Extent of 15.0 Percent or Greater Slope throughout the Project Area as Evidenced by the Red Color-Coded Unexcavated Shovel Tests.

VI. CONCLUSION AND RECOMMENDATIONS

From September 30 to October 4, 2013, CRI conducted a Phase I archaeological survey of approximately 14.0 acres associated with the proposed expansion of the Rivanna Station development area in Albemarle County, Virginia. The project area is adjacent to the southeastern edge of Rivanna Station and is bounded on the east by Green's Pond. The project area includes woodlands and open, grassy areas.

The Phase I cultural resources survey was designed to locate and identify cultural resources within the defined project area and to obtain sufficient information to make recommendations regarding their potential eligibility for listing in the NRHP. During the survey, CRI conducted systematic subsurface testing using shovel tests placed at 50.0-foot intervals along nine transects (Transects A−I) spaced 50.0 feet apart within the project area. A total of 122 shovel tests was excavated within the project area with no shovel tests positive for cultural material. A total of 129 shovel tests was not excavated due primarily to their location in areas of steep slope but also due to the presence of gravel access roads and exposed bedrock.

No new isolated archaeological finds or new archaeological sites were identified during this effort. No additional archaeological investigations are recommended.

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Attachment 2:

Section 106 Consultation Letters

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DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO ATTENTION OF

JUN 17 2015

Directorate of Public Works

SUBJECT: Section 106 Consultation, Rivanna Station Real Property Master Plan, Rivanna Station, Virginia

Mr. Marc Holma
Architectural Historian
Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Dear Mr. Holma:

Fort Belvoir has developed and proposes to implement a Real Property Master Plan (RPMP) for Rivanna Station (draft enclosed), a 75.55-acre site located on Route 29 in Albemarle County, adjacent to Charlottesville, Virginia. It is one of four geographically separate locations under the command of U.S. Army Garrison Fort Belvoir, Virginia. Fort Belvoir is performing an Environmental Assessment (EA), as required under the National Environmental Policy Act and 32 CFR Part 651 in order to address the potential effects of the RPMP on the surrounding area's environment, concurrently with Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800.

The RPMP establishes a vision and future direction for efficiently acquiring, managing, and developing real property at Rivanna Station in order to support current mission requirements, transformation, and management processes. The purpose of the development and implementation of an installation RPMP for Rivanna Station is to more adequately accommodate the current and forecasted personnel and mission requirements within a secure environment. The preferred alternative, as identified in the EA for Rivanna Station, is to focus all future development within the existing boundary of Rivanna Station and not to continue to lease lands and facilities north and west of Rivanna Station beyond 2019. The Area of Potential Effect (APE) for the RPMP is therefore the 75.55 acres of land owned and operated by Fort Belvoir (map enclosed).

Fort Belvoir has undertaken historic resource identification efforts within and adjacent to the APE. The oldest building at Rivanna Station was constructed in 2001, the Nicholson Building, and the other facilities were constructed thereafter. None of the existing buildings are of exceptional historic importance. Fort Belvoir has identified Site 44AB0514 within the APE and Site 44AB0528 adjacent to the APE and determined that they are not eligible for listing on the National Register of Historic Places (NRHP)

(VDHR File #1997-0823). Site 44AB0528, the Pritchett Cemetery, and a 50 foot buffer around the cemetery will continue to be avoided by future undertakings.

Fort Belvoir has determined that no historic properties will be affected by the development and implementation of the Rivanna Station RPMP as outlined above [36 CFR § 800.4]. Please provide comment on our determination of no historic properties affected in accordance with 36 CFR § 800.4(d). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. Future undertakings at Rivanna Station will continue to be consulted on pursuant to 36 CFR Part 800. A letter concerning the Rivanna Station RPMP has been sent to the Catawba Indian Nation, Eastern Band of Cherokee Indians, Tuscarora Nation of New York, United Keetoowah Band of Cherokee Indians of Oklahoma, and Albemarle County Department of Community Development.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Alison Talbot, Cultural Resources Manager, at 703-806-3759 or alison.s.talbot.civ@mail.mil.

Sincerely,

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosures

Talbot, Alison S CIV USARMY IMCOM ATLANTIC (US)

From: Holma, Marc (DHR) <Marc.Holma@dhr.virginia.gov>
Sent: Wednesday, July 22, 2015 4:45 PM
To: Talbot, Alison S CIV USARMY IMCOM ATLANTIC (US)
Subject: Rivanna Station Real Property Master Plan (2015-0781)

Alison,

Please accept this email as DHR's official comment on the above. The DHR concurs that there are no historic architectural properties located at Rivanna Station, however, the implementation of the Real Property Master Plan has the potential to affect archaeological site yet to be identified. Please consult with DHR on the individual actions associated with the Real Property Master Plan involving ground disturbance.

Sincerely,

Marc Holma

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO ATTENTION OF

JUN 17 2015

Directorate of Public Works

SUBJECT: Section 106 Consultation, Rivanna Station Real Property Master Plan, Rivanna Station, Virginia

Mrs. Margaret M. Maliszewski
Principal Planner
Albemarle County Department of
Community Development
401 McIntire Road
Charlottesville, Virginia 22902

Dear Mrs. Maliszewski:

Fort Belvoir has developed and proposes to implement a Real Property Master Plan (RPMP) for Rivanna Station (draft enclosed), a 75.55-acre site located on Route 29 in Albemarle County, adjacent to Charlottesville, Virginia. It is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. Fort Belvoir is performing an Environmental Assessment (EA), as required under the National Environmental Policy Act and 32 CFR Part 651 in order to address the potential effects of the RPMP on the surrounding area's environment, concurrently with Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800.

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they are not eligible for listing on the National Register of Historic Places (NRHP) (VDHR File #1997-0823). Site 44AB0528, the Pritchett Cemetery, and a 50 foot buffer around the cemetery will continue to be avoided by future undertakings.

Fort Belvoir has determined that no historic properties will be affected by the development and implementation of the Rivanna Station RPMP as outlined above [36 CFR § 800.4]. Please provide comment on our determination of no historic properties affected in accordance with 36 CFR § 800.4(d). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. Future undertakings at Rivanna Station will continue to be consulted on pursuant to 36 CFR Part 800. A letter concerning the Rivanna Station RPMP has been sent to the Virginia State Historic Preservation Officer, Catawba Indian Nation, Eastern Band of Cherokee Indians, Tuscarora Nation of New York, and United Keetoowah Band of Cherokee Indians of Oklahoma.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Alison Talbot, Cultural Resources Manager, at 703-806-3759 or alison.s.talbot.civ@mail.mil.

Sincerely,

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosures

Talbot, Alison S CIV USARMY IMCOM ATLANTIC (US)

From: Margaret Maliszewski <MMaliszewski@albemarle.org>
Sent: Thursday, July 16, 2015 1:10 PM
To: Talbot, Alison S CIV USARMY IMCOM ATLANTIC (US)
Subject: Rivanna Station Real Property Master Plan for Rivanna Station

Ms. Talbot,

I have received a copy of the Rivanna Station Real Property Master Plan for Rivanna Station.

Site 44AB0528, the Pritchett Cemetery, is identified in text and maps within the master plan document, and Alternative D proposes new development near the cemetery. The master plan cover memo states that the cemetery will continue to be avoided by future undertakings and a 50' buffer will be maintained around the cemetery. I recommend that this statement about the treatment of the cemetery be added to the master plan text. It may fit best under "Cultural and Archeological Resources" on page 23 and "Considerations" on page 64. I further recommend that the master plan be amended to provide for fencing and signage identifying the cemetery (if not already in place), and for the institution of a long-term preservation plan including maintenance (if not already in place).

Thank you for the opportunity to comment.

Sincerely,

Margaret Maliszewski

Margaret M. Maliszewski, Principal Planner

Albemarle County Department of Community Development

401 McIntire Road, Charlottesville, VA 22902

434-296-5832 x3276

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO ATTENTION OF

JUN 17 2015

Directorate of Public Works

SUBJECT: Section 106 Consultation, Rivanna Station Real Property Master Plan, Rivanna Station, Virginia

Chief George Wickliffe
United Keetoowah Band of Cherokee Indians
in Oklahoma
P.O. Box 746
Tahlequah, Oklahoma 74465

Dear Chief Wickliffe:

Fort Belvoir has developed and proposes to implement a Real Property Master Plan (RPMP) for Rivanna Station (draft enclosed), a 75.55-acre site located on Route 29 in Albemarle County, adjacent to Charlottesville, Virginia. It is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. Fort Belvoir is performing an Environmental Assessment (EA), as required under the National Environmental Policy Act and 32 CFR Part 651 in order to address the potential effects of the RPMP on the surrounding area's environment, concurrently with Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800.

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Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Alison Talbot, Cultural Resources Manager, at 703-806-3759 or alison.s.talbot.civ@mail.mil.

Sincerely,

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosures

Talbot, Alison S CIV USARMY IMCOM ATLANTIC (US)

From: Lisa LaRue-Baker - UKB THPO <ukbthpo-larue@yahoo.com>
Sent: Wednesday, July 15, 2015 12:51 PM
To: Talbot, Alison S CIV USARMY IMCOM ATLANTIC (US)
Cc: ebird@unitedkeetoowahband.org
Subject: Real Property Master Plan, Rivanna Station, Albemarie County, VA

The UKB concurs with the information in your letter of June 17, 2015, regarding the Real Property Master Plan for Rivanna Station, Albemarie County, VA.

Thank you,

Lisa C. Baker
Acting THPO
United Keetoowah Band of Cherokee Indians in Oklahoma PO Box 746 Tahlequah, OK 74465

c 918.822.1952
ukbthpo-larue@yahoo.com

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DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO ATTENTION OF

JUN 17 2015

Directorate of Public Works

SUBJECT: Section 106 Consultation, Rivanna Station Real Property Master Plan, Rivanna Station, Virginia

Chief William Harris
Catawba Indian Nation
996 Avenue of the Nations
Rock Hill, South Carolina 29730

Dear Chief Harris:

Fort Belvoir has developed and proposes to implement a Real Property Master Plan (RPMP) for Rivanna Station (draft enclosed), a 75.55-acre site located on Route 29 in Albemarle County, adjacent to Charlottesville, Virginia. It is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. Fort Belvoir is performing an Environmental Assessment (EA), as required under the National Environmental Policy Act and 32 CFR Part 651 in order to address the potential effects of the RPMP on the surrounding area's environment, concurrently with Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800.

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Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Alison Talbot, Cultural Resources Manager, at 703-806-3759 or alison.s.talbot.civ@mail.mil.

Sincerely,

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO ATTENTION OF

JUN 17 2015

Directorate of Public Works

SUBJECT: Section 106 Consultation, Rivanna Station Real Property Master Plan, Rivanna Station, Virginia

Principal Chief Michell Hicks
Eastern Band of Cherokee Indians
P.O. Box 455
Cherokee, North Carolina 28719

Dear Principal Chief Hicks:

Fort Belvoir has developed and proposes to implement a Real Property Master Plan (RPMP) for Rivanna Station (draft enclosed), a 75.55-acre site located on Route 29 in Albemarle County, adjacent to Charlottesville, Virginia. It is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. Fort Belvoir is performing an Environmental Assessment (EA), as required under the National Environmental Policy Act and 32 CFR Part 651 in order to address the potential effects of the RPMP on the surrounding area's environment, concurrently with Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800.

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Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Alison Talbot, Cultural Resources Manager, at 703-806-3759 or alison.s.talbot.civ@mail.mil.

Sincerely,

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO ATTENTION OF

JUN 17 2015

Directorate of Public Works

SUBJECT: Section 106 Consultation, Rivanna Station Real Property Master Plan, Rivanna Station, Virginia

Chief Leo R. Henry
Tuscarora Nation of New York
2006 Mt. Hope Road
Lewistown, New York 14092

Dear Chief Henry:

Fort Belvoir has developed and proposes to implement a Real Property Master Plan (RPMP) for Rivanna Station (draft enclosed), a 75.55-acre site located on Route 29 in Albemarle County, adjacent to Charlottesville, Virginia. It is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. Fort Belvoir is performing an Environmental Assessment (EA), as required under the National Environmental Policy Act and 32 CFR Part 651 in order to address the potential effects of the RPMP on the surrounding area's environment, concurrently with Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800.

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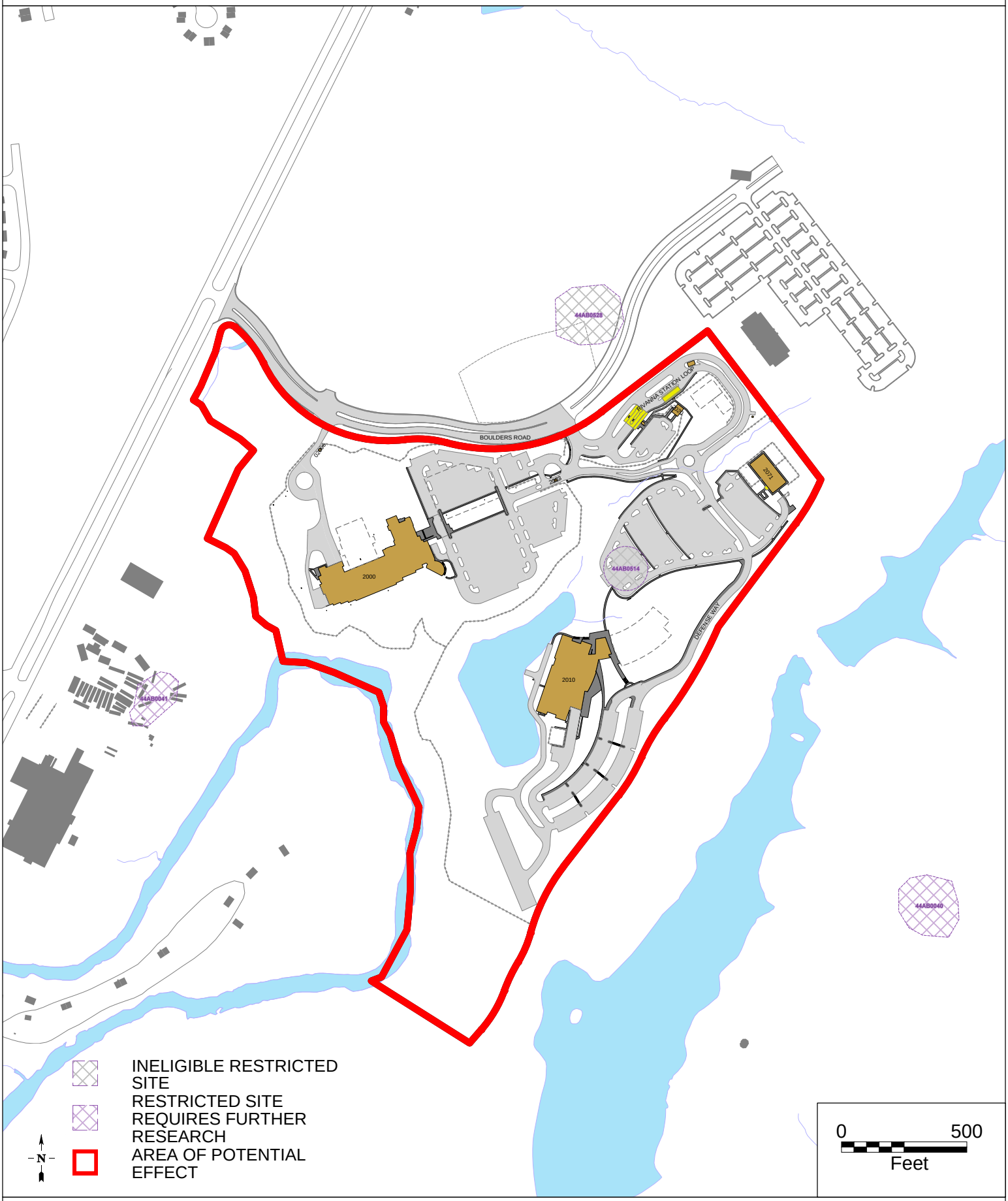
Sincerely,

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosures

RIVANNA STATION - AREA OF POTENTIAL EFFECT - RIVANNA STATION



FORT BELVOIR GIS CENTER T: 703.806.0073 MAPID: 7933

APPENDIX F

Environmental Condition of Property (ECOP) Report

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Final

Environmental Condition of Property Report

Rivanna Station,

Charlottesville, Virginia

Prepared by:

HNTB
2900 S. Quincy Street, Suite 200
Arlington, VA 22206

February 2014

ENVIRONMENTAL CONDITION OF PROPERTY REPORT FOR THE U.S. ARMY FOR A 14-ACRE PROPERTY ADJACENT TO RIVANNA STATION, CHARLOTTESVILLE, VIRGINIA

Reviewed by:

Fort Belvoir, Virginia
Directorate of Public Works

_____
Mr. Bill Sanders
Director, Public Works

Recommended for approval by:
Fort Belvoir, Virginia

_____
Colonel Gregory D. Gadson
Garrison Commander

Approved by:
Installation Management Command Headquarters

_____
Lieutenant General Michael Ferriter
IMCOM Commander

Date_____

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Executive Summary

This Environmental Condition of Property (ECOP) report has been prepared under contract to the U.S. Army Corps of Engineers, Norfolk District. The ECOP addresses one 14 acre property (the planned acquisition site) located adjacent to Rivanna Station, one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia. Rivanna Station is located approximately 95 miles driving distance from the Fort Belvoir Main Post area, in Albermarle County, approximately 12 miles north of Charlottesville, Virginia.

The planned acquisition site is a rectangular-shaped area approximately 14 acres in size, comprised of a portion of two parcels, adjoining Rivanna Station to the west and a water body, Greens Pond to the east. The site is undeveloped, partially forested and partially maintained open field. The planned acquisition site is being evaluated for potential acquisition to expand Rivanna Station to meet mission requirements, which would result in a campus encompassing approximately 89.5 acres. The Army can use this ECOP report in decision-making activities associated with future real property transactions.

This ECOP report has been developed to help the Army meet its obligations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), section 120(h), as amended by the Community Environmental Response Facilitation Act (CERFA; Public Law 102-426). The Department of Defense (DoD) guidance and the American Society for Testing and Materials (ASTM) *Standard Practice for Conducting Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E1527-05) were used to prepare this ECOP report.

This ECOP report documents the physical and environmental condition of property resulting from the past storage, use, release, and disposal of hazardous substances and petroleum products within or directly adjacent to the Subject Property. The ECOP summarizes the historical, cultural, and environmental conditions of the property. Findings of this ECOP report were based on readily available, environmental information, interviews with site personnel, previous environmental studies, and federal and state database and file information related to the storage, release, treatment or disposal of hazardous substances or petroleum products. Findings were also based on visual observations from the time of the site visit.

On the basis of the findings of this ECOP report, an ECOP classification rating was established for the subject property. The absence of observed or reported releases of potentially hazardous materials in the subject property was the primary driver for the ECOP classification of “1/White.” That classification indicates that no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Certification

All information/documentation provided accurately reflects the environmental condition of the property. This Environmental Condition of Property (ECOP) Report is in general accordance with the U.S. Department of Defense (DoD) requirements for completion of an ECP Report.

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1.0 Introduction

1.1 Introduction and Background

Rivanna Station is one of four geographically separate locations under the command of the U.S. Army Garrison Fort Belvoir, Virginia (Fort Belvoir). Rivanna Station is located approximately 95 miles driving distance from the Fort Belvoir Main Post area, in Albermarle County, approximately 12 miles north of Charlottesville, Virginia. Boulders Road, located off of U.S. Highway 29/Seminole Trail, a major urban growth corridor for the greater Charlottesville region, provides access to Rivanna Station. **Figure 1** presents the location of Rivanna Station.

Rivanna Station was established in the late 1990's and currently consists of approximately 76 acres of land. The installation is home to three primary mission partners: U.S. Army Intelligence and Security Command's (INSCOM) National Ground Intelligence Center (NGIC); Defense Intelligence Agency (DIA) Joint Use Intelligence Analysis Facility (JUIAF); and National Geospatial-Intelligence Agency (NGA). Additional mission functions are housed off-site in the vicinity of the installation.

An approximately 14 acre site located along the southeastern boundary of the campus is being evaluated for potential acquisition to expand Rivanna Station to meet mission requirements, depicted on **Figure 2**. This planned acquisition would result in a campus encompassing approximately 89.5 acres that would be of sufficient size to meet current and near term mission requirements.

HNTB, under contract to the U.S. Army Corps of Engineers (USACE) Norfolk District, has prepared this Environmental Condition of Property (ECOP) Report for USACE Norfolk District and Fort Belvoir. As required by Department of Defense (DoD) policy, an ECOP must be prepared before any real property may be sold, leased, transferred, or acquired. The Army will use the baseline in decision-making activities associated with future real property transactions. The ECOP report is also intended to help the Army meet its obligations under the Comprehensive Environmental Response, Compensation, and Liability Act, section 120(h) (CERCLA), as amended by the Community Environmental Response Facilitation Act (CERFA; Public Law 102-426).

In support of the ECOP, a Phase I Environmental Site Assessment (ESA) was completed by Williamsburg Environmental Group, Inc. (WEG). The data provided in this ECOP is primarily based on the Phase I ESA.

1.2 Property Description

The planned acquisition site is a rectangular-shaped area approximately 14 acres in size, comprised of a portion of two parcels. The site adjoins Rivanna Station to the west, and is bordered on the east by a water body known as Greens Pond. The site is undeveloped, partially forested and partially maintained open field. A gravel road that extends from Boulders Road and wraps around Rivanna Station provides access to the planned acquisition site. There are no structures located on the site, and it does not appear to be serving any particular use at the time of this study. Topography on the site is variable, ranging between approximately 358 to 515 feet above mean sea level (AMSL).

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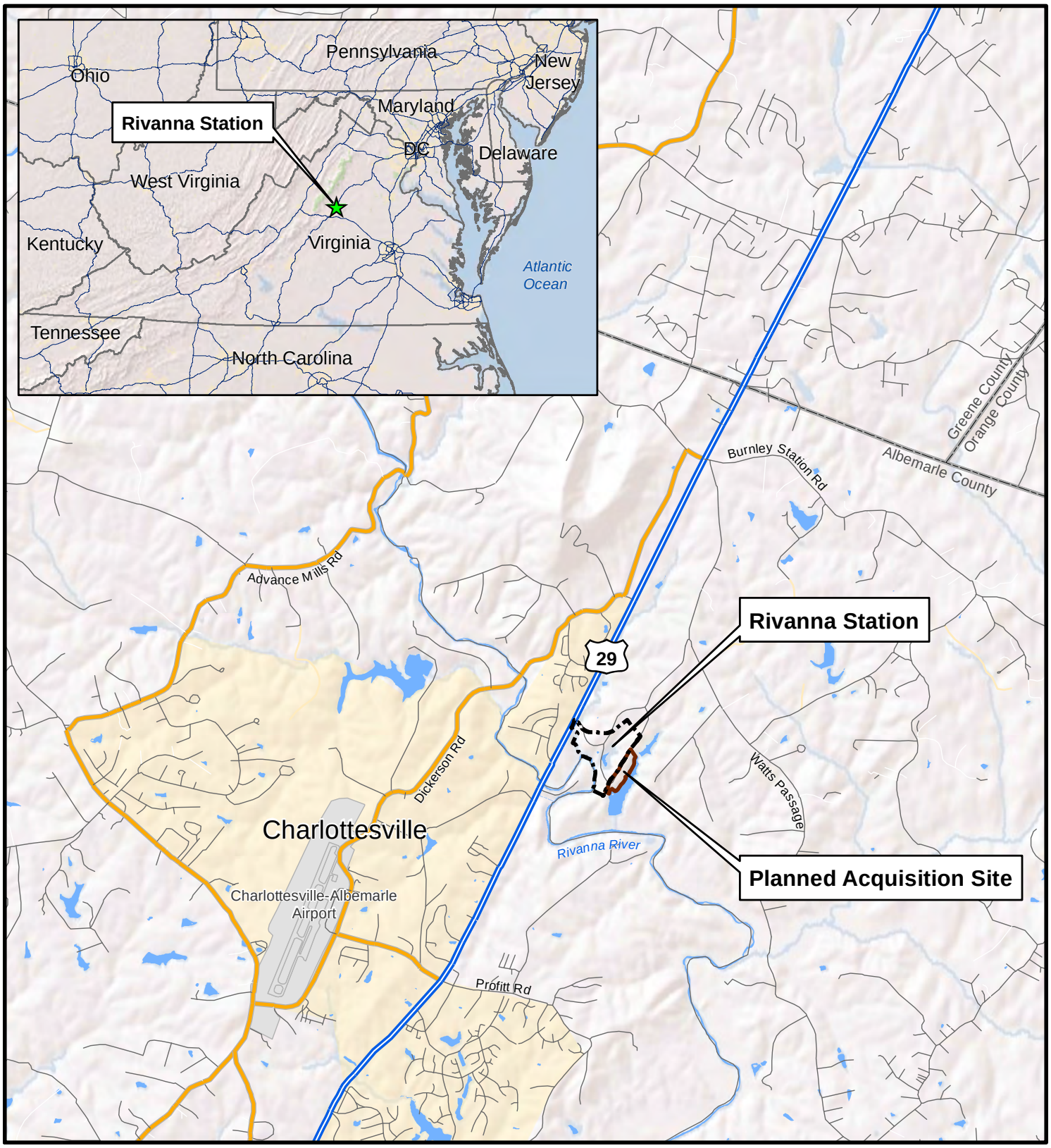

Legend

- Rivanna Station
- Planned Acquisition Site

Location Map
Figure 1

N

0 1,250 2,500 5,000 Feet

Source: Rivanna Station GIS, ESRI

Legend

- Rivanna Station
- Planned Acquisition Site
- Parcel Boundary

Planned Acquisition Site
Figure 2

0 150 300 600 Feet

N

Sources: Rivanna Station GIS, ESRI, Aerial (2012 USDA National Agricultural Imagery Program)

The planned acquisition site is located on the United States Geological Survey (USGS) Gordonsville, Charlottesville, and Earlysville Topographic Quadrants, and does not have an established address. The site is located at 38°09'14.04" N and 78°24'40.32" W adjacent to Rivanna Station. According to the Albemarle County GIS-Web, the planned acquisition site includes a portion of two parcels associated with Parcel Identification (ID) numbers 03300-00-00-01500 and 03300-00-00-01400, located in Charlottesville, Virginia 22911. Records Parcel ID number 03300-00-00-01500 (Tax ID 33-15) is 89 acres total but only a portion is included in the 14 acre site, and accounts for 86% of the planned acquisition site area. The remaining portion is a section of a parcel that was also previously developed for Rivanna Station.

The planned acquisition site is currently owned by Next Generation LLC, with a mailing address of P.O. Box 5548, Charlottesville, VA, 22905. Environmental Data Resources, Inc. (EDR) provided a 60-100 year period title search as part of the ASTM E 1527-05 Standard. A chain of title search was provided by EDR for a majority of the planned acquisition site. Records were provided for the parcel associated with Tax ID 33-15 and Parcel ID number 03300-00-00-01500. Public records of Albemarle County were searched from January 1, 1940 to September 29, 2013, and no other deeds vesting title in the Subject Property were found of record during the period searched. **Table 1** summarizes the chain of title.

Table 1
Chain of Title

To	From	Date
John West	George E. Walker, Trustee	11/27/1911
Septimia W. Butcher	John West	John West left property to Septimia W. Butcher after his death.
William C. Smith	Septimia W. Butcher, widow	2/26/1959
Simco, Inc.	William C. Smith & Mary L. Smith	12/22/1964
Rivanna Estates, LP	Simco, Inc.	2/15/1968
River Heights Associates, LP	Rivanna Estates, LP	9/24/1991
Next Generation, LLC	River Heights Associates, LP	5/2/1996

Source: EDR, 2013.

Rivanna Station is located within the Designated Development Area known as "Places 29" on the Albemarle County Future Land Use Plan. The "Places 29" planning area is used to designate a rapidly urbanizing growth corridor along U.S. Highway 29 at the northern end of the county. The planned acquisition site is located to the south and east of the present-day military installation and lies within the proposed expansion of the Development Area Boundary in the County's current draft

Comprehensive Plan (dated 21 January 2011). The site has been identified as an area appropriate for Neighborhood Density Urban Development.

1.3 Limitations

The data provided in this ECOP is based on a Phase 1 ESA, prepared by WEG. The Phase I ESA was performed in compliance with ASTM E 1527-05*, Standard Practice for Conducting Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The complete Phase 1 ESA is included as **Appendix A**.

WEG did not independently verify all information collected. Consequently, the Phase I ESA and data presented in this report is accurate and complete only to the extent that information provided to WEG was accurate and complete. Changes in the condition of the Property may occur with time, due to either natural processes or human activities. The data presented in this report reflect the environmental conditions of the Property as recorded during the site visit on October 1, 2013. The Phase I ESA was performed using the degree of care and skill ordinarily exercised under similar circumstances by qualified professionals; no further warranty is made.

2.0 Survey Methodology

2.1 Approach and Rationale

This ECOP report has been prepared to document the environmental condition of property for a planned acquisition site approximately 14 acres in size, as described in Section 1.2 using technical guidance presented in ASTM E1527-05. The intent of the Phase I ESA was to evaluate any Recognized Environmental Conditions (RECs) on or adjacent to the planned acquisition site. Those guidance documents provide a systematic framework for identifying recognized environmental concerns for real property by using an environmental records review process, visual site inspections (VSIs), and interviews with personnel knowledgeable about present and past uses of the site, if available.

The following readily available sources of information concerning environmentally significant current and historical uses of the planned acquisition site were considered in this ECOP report's development:

- Available information and records in the possession of the Army or records made available by the regulatory agencies or other involved federal agencies to determine the environmental condition of the property;
- Reasonably obtainable federal, state, and local government records for each adjacent facility at which there has been a release of any hazardous substance or any petroleum product and that is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the Subject Property;
- Interviews with installation employees involved in operations within the Subject Property;
- Visual inspections of the site, including buildings, structures, equipment, utilities, or other improvements on the properties, and of properties immediately adjacent to the Subject Property noting sewer lines, runoff patterns, evidence of environmental impacts (e.g., stained soil, stressed vegetation, dead or ailing wildlife), and other observations that indicate actual or potential releases of hazardous substances or petroleum products; and
- Visual inspections of property adjacent to the Subject Property, as appropriate.

The investigation did not include sampling, testing, or detailed studies to specifically identify or quantify environmental issues. This assessment is not intended to focus on *de minimus* conditions that generally do not present risk to public health or the environment, and would not require enforcement action by regulating agencies.

2.2 Review of Regulatory Database Information

In a Phase I investigation, the possibility of off-site induced environmental contamination of a real property due to surface or subsurface migration is researched through federal and state right-to-know information or information obtained in accordance with the Freedom of Information Act (FOIA). Visible indicators are not always present; therefore, research through spill reports, Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) lists, and other government reports can show cause for concern that would otherwise go unnoticed and therefore not investigated. WEG reviewed federal, state, and local information regarding registered hazardous waste

sites regulated under the Resource Conservation and Recovery Act (RCRA) and CERCLA. The RCRA Notifiers list and CERCLIS include sites that have notified state or federal agencies due to hazardous material/waste generating, transporting, or storing activities. Sites may have also undergone inspections or site assessments because of actual or suspected spills or releases. The identification of a site does not necessarily indicate contamination, illegal activity, or confirmation that an actual health or environmental threat exists.

Federal information gathered and reviewed through the EDR Radius Map Report (Report) databases includes, but is not limited to, the National Priority List (NPL), CERCLIS list, the Emergency Response Notification System (ERNS), and RCRA information. State information gathered and reviewed through the Report includes, but is not limited to, the State Priority List, Underground Storage Tank (UST) Registry, Aboveground Storage Tank (AST) Registry, LUST Registry, LTANKS Registry, Spill Reports, and Solid Waste Facility Information. The information reviewed is included in its entirety in Appendix D to the Phase 1 ESA.

2.2.1 Federal Records Review

The EDR Radius Report was generated on September 17, 2013. The planned acquisition site was not listed in any of the databases searched by EDR. One site was listed on the federal RCRA Corrective Action (CORRACTS) facilities list and located within one mile of the Property. Corrective Action was complete without controls on the site, GE Intelligent Platforms, on August 23, 2010. This site is located on the opposite/north side of Route 29. Additional information regarding the facility, via the Environmental Protection Agency's (USEPA's) Mid-Atlantic Facility Report, is located in Appendix A following the EDR Radius Report.

2.2.2 State Records Review

The EDR Radius Report identified state records for the project vicinity, including one LUST record and one LTANKS record, both associated with the Van Derveer Rental Property. The site is located within a mile of the planned acquisition site, south, and on the opposite side of the Rivanna River. The site was listed as "Closed" by the Virginia Department of Environmental Quality (DEQ).

2.2.3 Additional Environmental Record Sources

The EDR Radius Report also provides data for public water supply facilities within a one mile vicinity of the Property. North Rivanna Water Treatment Plant is located nearly one mile northwest of the Property; numerous violations have been sited at this plant. The last violation was reported on March 31, 2009 and for "Treatment Technique Exceeds Turb 1 NTU".

2.2.4 Sanborn Fire Insurance Maps

The complete holdings of the Sanborn Library, LLC collection have been searched and fire insurance maps covering the Property were not found. A copy of the Sanborn results is located in Appendix A.

2.2.5 City Directory

EDR searched the Polk's City Directory and no data was provided. The current Property does not have an established address. However, U.S. Army Foreign Science was identified at 2055 Boulders Road, approximately 800 feet northwest of the Property. A copy of the City Directory results is located in Appendix A.

2.3 Site Reconnaissance

A site reconnaissance was performed to characterize on-site conditions and assess surrounding property uses and natural surface features that may have affected the condition of the planned acquisition site. The site reconnaissance was conducted by Tibby J. Lawrence of WEG on October 1, 2013. The assessor started the reconnaissance at the gravel road along the northwest boundary of the property (Appendix A, Photos #1-14). Subsequently, the planned acquisition site was assessed in a counterclockwise direction (Appendix A, Photos #14-28), finishing with interior transects through the planned acquisition site (Appendix A, Photos #28-31).

2.4 Interviews

An interview with the owner of the planned acquisition site was not conducted.

2.5 Reconnaissance of Adjacent Properties

Adjoining properties to the southwest, south, east, and northeast are undeveloped and partially forested and partially open field. Rivanna Station is located adjacent to the Property to the northwest. The planned acquisition site adjoins the Rivanna Station and undeveloped, partially maintained fields. Greens Pond and the associated dam also border the planned acquisition site.

2.6 Property Classifications

The standard classification of ECOP Area Types was formalized in 1998 with the publication of the American Society of Testing and Materials (ASTM) Standard D 5746-98 (revised 2010). According to the Standard, "an identification of an area type on an environmental condition of property map means that a DoD component has conducted sufficient studies to make a determination of the recognized environmental conditions of installation real property or has complied with the identification requirements of uncontaminated property under CERFA, or both, and has categorized the property into one of the following seven area types:

- Type 1: An area or parcel of real property where no release, or disposal of hazardous substances or petroleum products or their derivatives has occurred (including no migration of these substances from adjacent properties).
- Type 2: An area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred.

- Type 3: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.
- Type 4: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken.
- Type 5: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred and removal or remedial actions, or both, are under way, but all required actions have not yet been taken.
- Type 6: An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but required response actions have not yet been initiated.
- Type 7: An area or parcel of real property that is unevaluated or requires additional evaluation.

3.0 Summary of Data for Property to be Conveyed

3.1 Environmental Setting

As indicated in Section 1.2, the planned acquisition site is comprised of 14 acres of partially wooded and partially maintained open field, bordering a water body, Greens Pond, to the east, Rivanna Station to the west and on the northeast and southwest by woodlands. No structures currently occupy the site.

3.1.1 Topography

The planned acquisition site is located in the Piedmont physiographic province of Virginia. This region is the non-mountainous portion of the Appalachian chain and slopes from the mountains to the Coastal Plain. The region consists primarily of rolling hills and rock outcrops and has been exposed to chemical weathering as much of the region is covered by a layer of saprolitic soil. The planned acquisition site exhibits relatively level terrain along its western edge, increasing in slope as it approaches Greens Pond. Land features in the area range from rolling hills to relatively steep stream valleys.

3.1.2 Geology

The Subject Area is underlain by plutonic rocks of the Middle Proterozoic period. These rocks consist of porphyroblastic biotite-plagioclase gneiss that is medium to coarse-grained and is rich in biotite and feldspar.

3.1.3 Surface Water

Albemarle County is drained by the James River and its three major tributaries; the Rivanna River, Rockfish River, and Hardware River. The planned acquisition site is located in the portion of the county drained by the Rivanna River and its tributaries (North Fork Rivanna River and Herring Branch). The principal tributaries of the Rivanna River are North Fork Rivanna River, Buck Mountain Creek, Moormans Creek, and Mechum River.

Surface water on the planned acquisition site generally flows southeast and drains into Greens Pond and then into the North Fork Rivanna River. One storm drain outlet was identified immediately downstream of the Greens Pond Dam which appears to be draining road runoff from the gravel entrance. Site-specific groundwater information was not available for review, but is assumed to follow topographic features.

3.1.4 Groundwater

All of the Albemarle County's major public water supplies are surface supplies, which approximately half of the County's population uses for consumptive uses. The other half uses groundwater via private, individual wells and springs or small community systems (Albemarle County Comprehensive Plan, 1999).

Albemarle County consists primarily of metamorphic and igneous rocks overlain by a "regolith" layer composed of soil, saprolite or weathered bedrock, and alluvium from streams. Groundwater is stored in the pore spaces of the regolith and in fractures of the underlying bedrock. Fractures are the usual source of well water, since most wells are cased to the depth of bedrock to prevent surface contamination.

Fractures decrease with depth, and most occur within one hundred feet of the top of the bedrock. The greater the number of fractures in the rock aquifer penetrated by the well, the greater the well yield.

3.1.5 Stormwater

Surface water from the 14 acre planned acquisition site currently flows into Greens Pond and is ultimately discharged into the North Fork of the Rivanna River at the southern end of the pond. Development of the 14 acre planned acquisition site would be subject to the requirements of applicable county regulations and the Virginia Stormwater Management Law and Erosion and Sediment Control Laws. Construction and related land disturbing activity that disturbs greater than one acre must obtain coverage under the General Permit for Discharges from Construction Activities from the Virginia Stormwater Management Program (VSMP) issued by the Virginia DEQ. The VSMP ensures that regulated projects are submitted, reviewed, approved, inspected and constructed in accordance with the approved plan. Design standards for projects constructed on the site will also need to conform with the Energy Independence and Security Act of 2007 (EISA 2007), Section 438 regarding site hydrological considerations and the protection of wetlands and water bodies in the post-development state.

3.1.6 Floodplains

A review of the Federal Emergency Management Agency (FEMA) digital flood hazard area map indicates that the planned acquisition site lies outside the 100-year floodplain.

3.1.7 Wetlands

WEG conducted a detailed investigation of waters of the U.S. in October 2013. U.S. Geological Survey (USGS) 7.5-minute Topographical Quadrangle Map for Earlysville, Virginia (1984 revision), the National Wetlands Inventory Interactive Mapper (NWI), administered by the U.S. Fish and Wildlife Service (USFWS), and the Web Soil Survey, administered by the National Resources Conservation Service (NRCS) were consulted. No wetlands were identified in the immediate vicinity of the planned acquisition site.

Fieldwork using the Routine Determination Method as outlined in the 1987 *Corps of Engineers Wetland Delineation Manual* and methods described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)* was conducted in October 2013. A corner of the planned acquisition site, based on the preliminary boundary that borders Greens Pond, was identified as a wetland. An Application for a Preliminary Jurisdictional Determination is in the process of being filed. Albermarle County has issued a Water Protection Ordinance Buffer which requires the maintenance of a 100 foot buffer around water bodies such as Greens Pond; the identified wetland area lies within this buffer and is not planned for development.

3.1.8 Threatened or Endangered Species

Historic coordination undertaken in the 2008 Environmental Assessment for the Expansion of Rivanna Station, Charlottesville, VA indicated that the Atlantic pigtoe (*Fusconaia masoni*) has been documented in the North Fork Rivanna River, located immediately south of the planned acquisition site. Additionally,

the federally listed, proposed, and candidate species of James spinymussel (*Pleurobema collina*) and the Indiana bat (*Myotis sodalist*) have been identified in the county or adjacent counties.

Daguna Consulting, LLC completed a mussel survey in August 2013. Two stretches of the North Fork Rivanna River were surveyed for the presence of the federally endangered James Spinymussel. One occurrence of the James spinymussel was identified in the survey, north of the planned acquisition site. This information will be shared with the USFWS as part of the National Environmental Policy Act (NEPA) Agency Scoping process.

A habitat survey for the Indiana Bat was completed on 1 October 2013. The planned acquisition site was found to contain habitat suitable for summer use by Indiana bats (large trees with exfoliating bark, scattered snags and cavities within dying and living trees, etc.). Suitable foraging habitat is present within the site. There is no potential for winter use as there are no known caves or potential underground roosts. Additional coordination with the USFWS will be undertaken to determine whether an additional survey would need to occur within the appropriate survey window (May 15 to August 15) and/or whether future development will identify restrictions to the time of year in which tree clearing and construction activities may take place.

3.1.9 Historical and Cultural Resources

Cultural Resources, Inc. prepared a Phase I cultural resources survey, designed to locate and identify cultural resources within the planned acquisition area and to obtain sufficient information to make recommendations regarding their potential eligibility for listing in the National Register of Historic Places (NRHP). There are no structures within the boundaries of the planned acquisition site. A total of 122 shovel tests were excavated on the planned acquisition site; none tested positive for cultural material. No new isolated archaeological finds or new archaeological sites were identified, and no additional archaeological investigations were recommended. Additional coordination with the Virginia Department of Historic Resources will be undertaken prior to development on the planned acquisition site.

3.1.10 Air Emissions

Albemarle County is within the Northeastern Virginia Intrastate Air Quality Control Region (AQCR) (AQCR 224) (40 CFR 81.144). Federal regulations designate AQCR 224 as an attainment area for all criteria pollutants (40 CFR 81.338).

3.2 Visual Site Inspection Observations

3.2.1 Storage Tanks

No storage tanks were identified on the planned acquisition site during the on-site reconnaissance, as corroborated by the federal and state database searches.

3.2.2 Hazardous Substances, Wastes, and Petroleum Products

No hazardous substances, wastes, or petroleum products were observed on the planned acquisition site.

3.2.3 PCB-Containing Equipment

No PCBs were identified on the planned acquisition site during the on-site reconnaissance.

3.2.4 Utilities

No overhead utilities were observed on the planned acquisition site.

3.2.5 Wells, Septic Systems, and Wastewater

No wells, septic systems, or wastewater-related equipment was observed on the planned acquisition site.

3.2.6 Drains and Sumps

One stormwater outfall pipe was observed on the planned acquisition site near the dam of Greens Pond. An unidentifiable type of pump system was found near the gravel road (Photos #5-6). It did not appear to be in use.

3.2.7 Exterior Observations

No structures were observed on the planned acquisition site.

3.2.8 Interior Observations

No structures were observed on the planned acquisition site.

Some substances may be present on a property in quantities and under conditions that may lead to contamination of the property or of nearby properties, but are not included in the CERCLA definition of hazardous substances or do not otherwise present potential CERCLA liability. These substances, including but not limited to asbestos-containing material (ACM), Radon, and Lead Based Paints (LBP), as detailed in section 13.1.1 of the Standard, were not included in the Phase I ESA.

4.0 Effects from Adjacent Property

Adjoining properties to the southwest, south, east, and northeast are undeveloped and partially forested and open field. Rivanna Station is located adjacent to the planned acquisition site to the northwest. Greens Pond adjoins the planned acquisition site to the east.

4.1 Record Search

The EDR Radius Report included one site listed on the federal RCRA CORRACTS facilities list and located within one mile of the Subject Property. Corrective Action was complete without controls on the site, GE Intelligent Platforms, on August 23, 2010. This site is located on the opposite/north side of Route 29. Additional information regarding the facility, via the EPA's Mid-Atlantic Facility Report, is located in Appendix A following the EDR Radius Report. The Report identified state records for the project vicinity, including one LUST record and one LTANKS record, both associated with the Van Derveer Rental Property. The site is located within a mile of the Subject Property, south, and on the opposite side of the Rivanna River. The site was listed as "Closed" by the DEQ. The EDR Radius Report also provides data for public water supply facilities within a one mile vicinity of the Subject Property. North Rivanna Water Treatment Plant is located nearly one mile northwest of the Subject Property; however, numerous violations have been sited at this plant. The last violation was reported on March 31, 2009 and for "Treatment Technique Exceeds Turb 1 NTU."

4.2 Interviews

Mr. Steve Kvech, District Engineer for the Department of Health, was contacted in regards to the North Rivanna Water Treatment Plant. The EDR Radius Report included data associated with the plant that is located within one mile of the Subject Property to the northwest, across Route 29. The EDR Radius Report included enforcement information which described a State Formal Notice of Violation (NOV) in 2003 and additional enforcement actions dating up to 2009. Mr. Kvech confirmed the NOV on May 6, 2003 and stated that compliance was achieved on May 7, 2003. The NOV was associated with high turbidity content. No further compliance issues were noted on record. The enforcement action (the public notice of the NOV) listed in 2009 in the Radius Report was associated with the 2003 NOV and was incorrectly listed as occurring in 2009.

4.3 Historical Aerial Photographs

Historical sources were reviewed in order to provide information regarding past uses of the planned acquisition site and surrounding area. This process helps to identify the likelihood of past uses resulting in RECs on a property. As part of the historical use investigation, WEG obtained available historic aerial photographs of the planned acquisition site and surrounding area. Historic aerial photographs were reviewed for the years 1960, 1963, 1977, 1984, 1989, 1994, 2000, 2005, 2006, 2008, 2009, 2011, and 2012 at various scales. The planned acquisition site appears partially forested and partially cleared on all photographs. No developments or structures appear on any of the photographs. Greens Pond is first shown on the 1977 photograph. Construction of the first phase of Rivanna Station is evident on the 2000 photograph and completed by 2005. Another phase of construction on Rivanna Station begins in 2008

and continues through 2011, as shown on the photographs. The 2012 photograph illustrates the planned acquisition site very similar to how it was observed during the site reconnaissance.

4.4 Historical Topographic Maps

The planned acquisition site is located on the USGS Gordonsville, Charlottesville, and Earlysville Topographic Quadrants. Quadrant maps from years 1892, 1939, 1950, 1965, 1978, and 1984 were reviewed for the Subject Property and the immediate vicinity. Topography on the planned acquisition site ranges from approximately 420-480 feet AMSL and slopes downgrade from north/northwest to south/southeast. The surrounding area is not highly developed as shown on the 1984 (most current) quadrant.

Land use at the adjacent properties does not appear to have changed significantly over the years and does not appear to have impacted the environmental conditions of the planned acquisition site.

5.0 Conclusions

5.1 Environmental Condition of Property

The Phase I ESA concluded that the assessment has revealed no evidence of RECs in association with the planned acquisition site.

On the basis of the findings of this ECOP report, an ECOP classification rating was established for the subject property, as defined in Section 2.6. The absence of observed or reported releases of potentially hazardous materials in the subject property was the primary driver for the ECOP classification of "1/White." That classification indicates that no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

6.0 References

American Society for Testing and Materials (ASTM) ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process. 2005.

EDR Aerial Photo Decade Package, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 17, 2013.

EDR Certified Sanborn Map Report, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 17, 2013.

EDR Chain of Title Report, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. October 25, 2013.

EDR – City Directory Abstract, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 30, 2013.

EDR Historical Topographic Map Report, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 17, 2013.

EDR Radius Map Report with GeoCheck, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 17, 2013.

Kvech, Steve. (November 1, 2013) Telephone Interview.

United States. Environmental Protection Agency. Mid-Atlantic Corrective Action. GE Intelligent Platforms Facility Report. 2013. <http://www.epa.gov>.

Virginia Department of Historic Resources. Virginia Cultural Resource Information System. 2013. <http://www.dhr.virginia.gov>.

7.0 Persons Consulted

Kvech, Steve. (November 1, 2013) Telephone Interview.

8.0 Acronyms and Abbreviations

ACM	asbestos-containing materials
AMSL	above mean sea level
AQCR	Air Quality Control Region
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BMP	best management practices
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CERFA	Community Environmental Response Facilitation Act
CORRACTS	Corrective Action
DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
DIA	Defense Intelligence Agency
DoD	Department of Defense
ECOP	Environmental Condition of Property
EDR	Environmental Data Resources, Inc.
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
INSCOM	U.S. Army Intelligence and Security Command
IRP	Installation Restoration Program
JUIAF	Joint Use Intelligence Analysis Facility
LBP	lead-based paint
LUST	leaking underground storage tank

MEC	munitions and explosives of concern
NEPA	National Environmental Policy Act
NGA	National Geospatial-Intelligence Agency
NGIC	National Ground Intelligence Center
NOV	Notice of Violation
NPL	National Priority List
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory Interactive Mapper
OWS	Oil water separator
PCB	polychlorinated biphenyl
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
SWMP	StormWater Management Plan
SWMU	Solid Waste Management Unit
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
UST	underground storage tank
UXO	unexploded ordnance
VSMP	Virginia Stormwater Management Program
VSI	visual site inspection

Appendices

Appendix A – Phase I Environmental Site Assessment

APPENDIX A

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Of the property known as
Rivanna Station Addition
Albemarle, Virginia

Prepared for

HNTB Corporation
Attn: Ms. Barbara Kulvelis
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Prepared by

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November 4, 2013

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1.0 EXECUTIVE SUMMARY

Williamsburg Environmental Group, Inc. (WEG) conducted a Phase I Environmental Site Assessment (ESA) in September-November 2013 for HNTB Corporation ("Client/User") on the approximately 14-acre project site known for this Phase I ESA as Rivanna Station Addition (Property). According to the Albemarle County GIS-Web, the Property includes a portion of two parcels associated with Parcel Identification (ID) numbers 03300-00-00-01500 and 03300-00-00-01400, located in Charlottesville, Virginia 22911. The Property adjoins the Rivanna Station and undeveloped, partially maintained open field. Greens Pond and the associated dam also border the Property.

WEG conducted the Phase I ESA pursuant to the American Society for Testing and Materials (ASTM) publication E 1527-05 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (Standard), in order to evaluate any Recognized Environmental Conditions (RECs) on or adjacent to the Property. Recognized environmental conditions relate to the likely presence of hazardous substances or petroleum products on the Property resulting from a past release, an existing release, or a material threat of a release of such substances. The investigation did not include sampling, testing, or detailed studies to specifically identify or quantify any specific hazardous substance issue. This assessment is not intended to focus on *de minimus* conditions that generally do not present risk to public health or the environment, and would not require enforcement action by regulating agencies.

The Phase I ESA was conducted in September-November 2013 in accordance with the scope and limitations of the Standard. The site reconnaissance was conducted on October 1, 2013. The Property consists of undeveloped land partitioned from two larger parcels that is partially forested and partially maintained field. A gravel road that extends from Boulders Road and wraps around Rivanna Station provides access to the Property. One storm drain outlet was identified immediately downstream of the Greens Pond Dam which appears to be draining road runoff from the gravel entrance. No foul, petroleum, or chemical smells were identified on the Property and no stained soils were visible during the site reconnaissance.

WEG reviewed federal, state, and local records regarding potential hazardous materials and petroleum products located within the Standard required radius of the Property. The Property was not listed in any of the federal or state databases searched for this report. One site was listed on the federal Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS) facilities list and located within one mile of the Property. Corrective Action was complete without controls on the site, GE Intelligent Platforms, on August 23, 2010.

Van Derveer Rental Property, located south from the Property across the Rivanna River, was listed on the State Leaking Underground Storage Tank (LUST) database and the Leaking Tanks (LTANKS) database. The site was listed as "Closed" by the Department of Environmental Quality (DEQ).

In addition, the EDR Radius Report also provides data for public water supply facilities within a one mile vicinity of the Property. North Rivanna Water Treatment Plant is located nearly one mile northwest of the Property and numerous violations have been sited at this plant. The last violation was reported on March 31, 2009 for "Treatment Technique Exceeds Turb 1 NTU".

Environmental Data Resources, Inc. (EDR) provided a 60-100 year period title search as part of the ASTM E 1527-05 Standard. A chain of title search was provided by EDR for a majority of the Property. Records were provided for the parcel associated with Tax ID 33-15 and Parcel ID number 03300-00-00-01500. This parcel is 89 acres total but only a portion is included in the 14-acre Property. This parcel comprises approximately 86% of the Property. The remaining portion is a section of a parcel that was previously developed for Rivanna Station.

Public records of Albemarle County were searched from January 1, 1940 to September 29, 2013, and no other deeds vesting title in the subject Property were found of record during the period searched. The details of the chain of title are shown below.

WEG has performed a Phase I ESA in conformance with the scope and limitations of the Standard for the Rivanna Station Addition site in Charlottesville, Virginia (Property). Any exceptions to, or deviations from, this practice are described in Sections 2 and 11 of this report. As detailed in the Findings (Section 8), Opinions (Section 9), and Conclusions (Section 10) of this report, it is the opinion of the environmental professional that this assessment has revealed no evidence of RECs in association with the Rivanna Station Addition Property.

2.0 INTRODUCTION

2.1 Purpose

Williamsburg Environmental Group, Inc. (WEG) was retained by HNTB Corporation ("User and Client") to perform a Phase I ESA on the approximate 14-acre project site known for this Phase I ESA as Rivanna Station Addition in Charlottesville, Virginia (Property). Location and vicinity maps are attached in Appendix A.

The purpose of this Phase I ESA is to identify RECs in connection with the Property, to the extent feasible pursuant to standard commercial and customary practices, as set forth in the American Society for Testing and Materials (ASTM) publication E 1527-05 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." Recognized environmental conditions are defined as "…the presence or likely presence of any hazardous substances or petroleum products on a *property* under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the *property* or into the ground, groundwater, or surface water of the *property*. The term is not intended to include *de minimus* conditions that generally do not present a material risk of harm to the public health or the environment and which generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies."

2.2 Detailed Scope of Services

Under the scope of services contract (Appendix B) between HNTB Corporation and WEG, the following tasks were completed for this Phase I ESA.

Site Visit – Conduct a visual inspection of the project site for RECs, including but not limited to: aboveground storage tanks, storage of chemicals, presence of polychlorinated biphenyl (PCB) containing equipment, and any irregularities of the site's soil or vegetation, possibly indicating the presence of hazardous materials. Photographs of the site will corroborate the inspection. Conduct a visual inspection regarding the land uses and existing conditions of adjacent properties.

Site History – Utilize historical information to identify, to the greatest extent practicable, the history of the site through an examination of historical aerial photographs, historical topographic maps, interviews, and examination of other historical documentation, as available.

Regulatory Agency Review of Site and Surrounding Properties – Review and evaluate available public information relating to the site and items of environmental interest with regard to properties within the Standard required radius of the site, including pertinent state and federal records.

Final Report – Provide a final report, meeting the ASTM Practice E 1527-2005, Standard Practice for Environmental Site Assessments: Phase I Site Assessment.

2.3 Significant Assumptions

No significant assumptions were made in regard to the Property for this Phase I ESA.

2.4 Limitations and Expectations

This Phase I ESA was performed in compliance with ASTM E 1527-05 standards. The investigation did not include sampling, testing, or detailed studies to specifically identify or quantify environmental issues. This assessment is not intended to focus on *de minimus* conditions that generally do not present risk to public health or the environment, and would not require enforcement action by regulating agencies.

WEG did not independently verify all information collected. Consequently, this report is accurate and complete only to the extent that information provided to WEG was accurate and complete. Changes in the condition of the Property may occur with time, due to either natural processes or human activities. The data presented in this report reflect the environmental conditions of the Property as recorded during the site visit on October 1, 2013. This Phase I ESA was performed using the degree of care and skill ordinarily exercised under similar circumstances by qualified professionals; no further warranty is made.

2.5 Special Terms and Conditions

WEG shall not be responsible for any claims, losses, or damages of any kind or nature arising out of the use of or reliance on this report in connection with any project other than the project specified in this report, or by any party or parties other than the Client and User. Furthermore, the Client and User agree to indemnify, defend, and hold WEG harmless from and against all such aforementioned claims, losses, and damages.

All findings, conclusions, and opinions contained in this report are limited to conditions observed and/or information and materials reasonably ascertainable and reviewed by WEG at the time of preparation of said report. WEG disclaims all other warranties of any kind or nature, expressed or implied, written or oral, with respect to this report, and matters contained therein. Information contained in this report shall not be construed to constitute a warranty that the condition of the site is as stated herein or that unforeseen or undetected defects or conditions do not exist on the site.

2.6 User Reliance

The User may rely on this Phase I ESA herein so far as the information provided to WEG is accurate. WEG did not verify any outside source information. The information provided in this ESA meets the ASTM E 1527-05 standard, and therefore, qualifies for use in the Innocent Landowner's Defense under the Comprehensive Environmental Response, Compensation, and Liability (CERCLA).

3.0 SITE DESCRIPTION

3.1 Location and Legal Description

The Property is located at 38°09’14.04” N and 78°24’40.32” W adjacent to the Rivanna Station in Charlottesville, Virginia. According to the Albemarle County GIS-Web, the Property includes a portion of two parcels associated with Parcel ID numbers 03300-00-00-01500 and 03300-00-00-01400, located in Charlottesville, Virginia 22911.

3.2 Site and Vicinity General Characteristics

Topography on the Property is variable ranging from approximately 515-358 feet above mean sea level (AMSL) (Appendix A). Surface water on the Property generally flows southeast. One storm drain outlet was identified immediately downstream of the Greens Pond Dam which appears to be draining road runoff from the gravel entrance. Site-specific groundwater information was not available for review, but is assumed to follow topographic features. The Property and surrounding properties consist primarily of undeveloped land and developed government office buildings.

3.3 Current Use of the Property

The Property consists of undeveloped land partitioned from two larger parcels that is partially forested and partially maintained field. The property does not appear to be serving any particular use at this time.

3.4 Descriptions of Structures, Roads, Other Improvements On-Site

No structures were observed on-site. A gravel road that extends from Boulders Road and wraps around Rivanna Station provides access to the Property and runs along the northwest boundary.

3.5 Current Uses of Adjoining Properties

The Property adjoins the Rivanna Station and undeveloped, partially maintained fields. Greens Pond and the associated dam also border the Property.

4.0 USER PROVIDED INFORMATION

4.1 Title Records

A chain of title search was provided by EDR for a majority of the Property. Records were provided for the parcel associated with Tax ID 33-15 and Parcel ID number 03300-00-00-01500. This parcel is 89 acres total but only a portion is included in the 14-acre Property. This parcel comprises approximately 86% of the Property. The remaining portion is a section of a parcel that was also developed for Rivanna Station.

Public records of Albemarle County were searched from January 1, 1940 to September 29, 2013, and no other deeds vesting title in the subject Property were found of record during the period searched. The details of the chain of title are shown below.

To	From	Date
John West	George E. Walker, Trustee	11/27/1911
Septimia W. Butcher	John West	John West left property to Septimia W. Butcher after his death
William C. Smith	Septimia W. Butcher, widow	2/26/1959
Simco, Inc.	William C. Smith & Mary L. Smith	12/22/1964
Rivanna Estates, LP	Simco, Inc.	2/15/1968
River Heights Associates, LP	Rivanna Estates, LP	9/24/1991
Next Generation, LLC	River Heights Associates, LP	5/2/1996

4.2 Environmental Liens or Activity and Use Limitations

The deed information on Schedule "A" of the Chain of Title Search and associated deeds makes a note of a "reservation of a cemetery located as set forth in deed from George Gilmer, Commissioner to Obie D. Pritchett, dated April 8, 1955, of record in said Clerk's Office in Deed Book 315, page 534."

The assessor viewed the Department of Historic Resources (DHR) Virginia Cultural Resource Information System (V-CRIS) to determine the location of the cemetery (www.dhr.virginia.gov). The cemetery is not located within the 14-acre Property. See Appendix D for the V-CRIS map and associated cultural resource record information.

4.3 Specialized Knowledge

No specialized knowledge was utilized in the completion of this report.

4.4 Commonly Known and/or Reasonably Ascertainable Information

The Albemarle County GIS-Web was accessed to obtain information on the Property, including assessment value, size, and parcel identification numbers (Appendix A). In addition, property transfer data was provided and is shown below.

Parcel-A (Tax Map 33-15, Parcel ID #03300-00-00-01500)

Owner	Next Generation LLC
Total Acres	89.0810
2013 Assessment: Land Value	$5,477,000
2013 Assessment: Land Use Value	$31,000
Total Value	$31,000
Previous Owner	N/A
Sale Date	05/03/1996
Sale Price	$0, Deed of Gift

Parcel-B (Tax Map 33-14, Parcel ID #03300-00-00-01400)

Owner	Next Generation LLC
Total Acres	15.2120
2013 Assessment: Land Value	$1,426,100
2013 Assessment: Land Use Value	$0
Total Value	$1,426,100
Previous Owner	N/A
Sale Date	01/30/1997
Sale Price	$0, Deed of Gift

4.5 Valuation Reduction for Environmental Issues

See Section 4.4 for Albemarle County GIS-Web data regarding Property values. As shown in Section 4.4, Parcel-A has a Land Value of $5,477,000 and a Land Use Value of $31,000. The $5,446,000 discrepancy is unknown. The User did not state whether or not the Property was priced at fair market value.

4.6 Owner, Property Manager, and Occupant Information

The Property is currently owned by Next Generation LLC. There are no occupants on-site.

4.7 Reason for Performing Phase I

HNTB Corporation, a contractor for the potential purchaser of the Property, has requested a Phase I ESA as part of their due diligence package.

4.8 Other

None.

5.0 RECORDS REVIEW

5.1 Standard Environmental Record Sources

In a Phase I investigation, the possibility of off-site induced environmental contamination of a real property due to surface or subsurface migration is researched through federal and state right-to-know information or information obtained in accordance with the Freedom of Information Act (FOIA). Visible indicators are not always present; therefore, research through spill reports, Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) lists, and other government reports can show cause for concern that would otherwise go unnoticed and therefore not investigated. WEG reviewed federal, state, and local information regarding registered hazardous waste sites regulated under the RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The RCRA Notifiers list and CERCLIS include sites that have notified state or federal agencies due to hazardous material/waste generating, transporting, or storing activities. Sites may have also undergone inspections or site assessments because of actual or suspected spills or releases. The identification of a site does not necessarily indicate contamination, illegal activity, or confirmation that an actual health or environmental threat exists.

Federal information gathered and reviewed through the EDR Radius Map Report (Report) databases includes, but is not limited to, the National Priority List (NPL), CERCLIS list, the Emergency Response Notification System (ERNS), and RCRA information. State information gathered and reviewed through the Report include, but is not limited to, the State Priority List, Underground Storage Tank (UST) Registry, Aboveground Storage Tank (AST) Registry, LUST Registry, LTANKS Registry, Spill Reports, and Solid Waste Facility Information. The information reviewed is summarized below and is included in its entirety in Appendix D.

General information on the programs accessed is as follows:

NPL – EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. For a site to be included in the NPL, it must either meet or surpass a predetermined hazard ranking systems score, be chosen as a state's top priority site, or meet all three of the following criteria: (1) the U.S. Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; (2) EPA determines that the site represents a significant

threat; and (3) EPA determines that remedial action is more cost effective than removal action.

CERCLIS – A compilation by the EPA of the sites that EPA has investigated or is currently investigating for a release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980.

RCRA – Identifies and tracks hazardous waste from the point of generation to the point of disposal. A compilation of reporting facilities that generate, store, transport, treat, or dispose of hazardous waste.

ERNS – Identifies incidents reported to the National Response Center, including chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents.

State Spills 90 – Virginia's Pollution Response Program Database of reported state spills.

Facility – Virginia's list of registered tanks; provides information on tanks for which owners of the facilities have provided information.

SWL – Virginia's database of permitted solid waste facilities (landfills). The Virginia Department of Environmental Quality (DEQ) does not maintain records of landfills that may have been in existence prior to landfill permitting regulations.

Pollution Complaints – Virginia's list of pollution complaints and spill reports that have been investigated by the agency.

5.1.1 Federal Records Review

The EDR Radius Map Report (Report) was generated on September 17, 2013 (Appendix D). The Property was not listed in any of the databases searched by EDR. One site was listed on the federal Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS) facilities list and located within one mile of the Property. Corrective Action was complete without controls on the site, *GE Intelligent Platforms*, on August 23, 2010. This site is located on the opposite/north side of Route 29. Additional information

regarding the facility, via the Environmental Protection Agency's (EPA's) Mid-Atlantic Facility Report, is located in Appendix D following the EDR Radius Report.

5.1.2 State Records Review

The above-referenced Report (Appendix D) identified state records for the project vicinity, including one LUST record and one LTANKS record, both associated with the *Van Derveer Rental Property*. The site is located within a mile of the Property, south, and on the opposite side of the Rivanna River. The site was listed as "Closed" by the DEQ.

5.2 Additional Environmental Record Sources

The EDR Radius Report also provides data for public water supply facilities within a one mile vicinity of the Property. North Rivanna Water Treatment Plant is located nearly one mile northwest of the Property; however, numerous violations have been sited at this plant. The last violation was reported on March 31, 2009 and for "Treatment Technique Exceeds Turb 1 NTU".

5.2.1 Sanborn Fire Insurance Maps

The complete holdings of the Sanborn Library, LLC collection have been searched and fire insurance maps covering the Property were not found. A copy of the Sanborn results is located in Appendix D.

5.2.2 City Directory

EDR searched the Polk's City Directory and no data was provided. The current Property does not have an established address. However, *U.S. Army Foreign Science* was identified at 2055 Boulders Road, approximately 800 feet northwest of the Property. A copy of the City Directory results is located in Appendix D.

5.3 Physical Setting Source(s)

The Property is located on the United States Geological Survey (USGS) Gordonsville, Charlottesville, and Earlysville Topographic Quadrants. Quadrant maps from years 1892, 1939, 1950, 1965, 1978, and 1984 were reviewed for the Property and the immediate vicinity (Appendix E). Topography on the Property ranges from approximately 420-480 feet AMSL and slopes downgrade from north/northwest to south/southeast. Surface water on the

Property appears to follow topography, flowing towards Greens Pond. Site-specific groundwater information was not available for review.

No structures are shown on-site in any of the maps. In addition, the Property appears forested and undeveloped on all maps. The surrounding area not highly developed as shown on the 1984 (most current) quadrant.

5.4 Historical Use Information on the Property

Historical sources were reviewed in order to provide information regarding past uses of the Property and surrounding area. This process helps to identify the likelihood of past uses resulting in RECs on the Property. As part of the historical use investigation, WEG obtained available historic aerial photographs of the Property and surrounding area.

WEG reviewed historic aerial photographs for the years 1960, 1963, 1977, 1984, 1989, 1994, 2000, 2005, 2006, 2008, 2009, 2011, and 2012 at various scales (Appendix E). The Property appears partially forested and partially cleared on all photographs. No developments or structures appear on any of the photographs. Greens Pond is first shown on the 1977 photograph. Construction of the first phase of Rivanna Station is evident on the 2000 photograph and completed by 2005. Then another phase begins in 2008 and continues through 2011, as shown on the photographs. The 2012 photograph illustrates the Property very similar to how it was observed during the site reconnaissance.

5.5 Historical Use Information on Adjoining Properties

See Section 5.4 above.

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

The site reconnaissance was conducted by Tibby J. Lawrence of WEG on October 1, 2013. The assessor started the reconnaissance at the gravel road along the northwest boundary of the property (Photos #1-14). Subsequently, the Property was assessed in a counterclockwise direction (Photos #14-28), finishing with interior transects through the Property (Photos #28-31).

6.2 General Site Setting

The Property equals approximately 14 acres located between the existing Rivanna Station and Greens Pond. The Property is partially forested and partially maintained open field. The surrounding area includes Rivanna Station and undeveloped land. Weather conditions at the time of the site reconnaissance were sunny with an approximate air temperature 68°F.

6.2.1 Adjacent Property

Adjoining properties to the southwest, south, east, and northeast are undeveloped and partially forested and partially open field. Rivanna Station is located adjacent to the Property to the northwest.

6.2.2 Storage Tanks

No storage tanks were identified on the Property during the on-site reconnaissance, as corroborated by the federal and state database searches (Appendix D).

6.2.3 Hazardous Substances, Wastes, and Petroleum Products

No hazardous substances, wastes, and petroleum products were observed on-site.

6.2.4 PCB-Containing Equipment

No PCBs were identified on the Property during the on-site reconnaissance.

6.2.5 Utilities

No overhead utilities were observed.

6.2.6 Wells, Septic Systems, and Wastewater

No wells, septic systems, or wastewater-related equipment was observed on-site.

6.2.7 Drains and Sumps

One stormwater outfall pipe was observed on-site near the dam of Greens Pond. An unidentifiable type of pump system was found near the gravel road (Photos #5-6). It did not appear to be in use.

6.3 Exterior Observations

No structures were observed on-site.

6.4 Interior Observations

No structures were observed on-site.

7.0 INTERVIEWS

7.1 Interview with Owner

An interview with the owner was not conducted.

7.2 Interview with Site Manager

An interview with a site manager was not conducted.

7.3 Interviews with Occupants

There were no occupants on-site.

7.4 Interviews with Local Government Officials

Mr. Steve Kvech, District Engineer for the Department of Health, was contacted in regards to the North Rivanna Water Treatment Plant (WTP). The Radius Map Report included data associated with the plant that is located within one mile of the Property to the northwest, across Route 29. The Radius Report included enforcement information which described a State Formal Notice of Violation (NOV) in 2003 and additional enforcement actions dating up to 2009. Mr. Kvech confirmed the NOV on May 6, 2003 and stated that compliance was achieved on May 7, 2003. The NOV was associated with high turbidity content. No further compliance issues were noted on record. The enforcement action (the public notice of the NOV) listed in 2009 in the Radius Report was associated with the 2003 NOV and was incorrectly listed as occurring in 2009.

7.5 Interviews with Others

No additional interviews were completed.

8.0 FINDINGS

Based on this Phase I ESA investigation, WEG's findings of any uses or features on or adjacent to the Property that can be reasonably assumed as associated with hazardous substances and/or petroleum products are detailed below.

8.1 Data Gaps

According to the standard, data gaps are a lack of or inability to obtain information required by this practice despite *good faith* efforts by the *environmental professional* to gather such information. The EDR title search was made for Parcel-A (Section 4.4) only; however, the chain of title for Parcel-A did include data associated with Parcel-B. Parcel-B is a portion of a parcel that was also developed for Rivanna Station.

8.2 Valuation Reduction

As shown in Section 4.4, Parcel-A has a Land Value of $5,477,000 and a Land Use Value of $31,000. The $5,446,000 discrepancy is unknown. The User did not state whether or not the Property was priced at fair market value.

8.3 Records Review

- GE Intelligent Platforms: RCRA CORRACTS within one mile of Property
- Van Derveer Rental Property: LUST, LTANKS within half mile of Property
- North Rivanna Water Treatment Plant: Violations noted

8.4 Property Findings

- None

9.0 OPINIONS

9.1 Records Review

GE Intelligent Platforms: Corrective Action was complete without controls on the site, GE Intelligent Platforms, on August 23, 2010. No further investigation is recommended.

Van Derveer Rental Property: This site was listed on the State LUST database and the LTANKS database. The site was listed as "Closed" by the Department of Environmental Quality (DEQ). No further investigation is recommended.

North Rivanna Water Treatment Plant: North Rivanna Water Treatment Plant is located nearly one mile northwest of the Property; however, numerous violations have been sited at this plant. The last violation was reported on March 31, 2009 and for "Treatment Technique Exceeds Turb 1 NTU". Mr. Steve Kvech, District Engineer for the Department of Health, was contacted and confirmed the NOV on May 6, 2003 and stated that compliance was achieved on May 7, 2003. The NOV was associated with high turbidity content. No further compliance issues were noted on record. The enforcement action (the public notice of the NOV) listed in 2009 in the Radius Report was associated with the 2003 NOV and was incorrectly listed as occurring in 2009. No further investigation is recommended.

9.2 Property Findings

No RECs were found during the site reconnaissance. No further investigation is recommended.

10.0 CONCLUSIONS

This report details the results of a Phase I ESA conducted by WEG in September and October 2013 for HNTB Corporation on the approximate 14-acre property proposed for the Rivanna Station Addition, located in Charlottesville, Virginia 22911. The project site is identified by parcel ID numbers 03300-00-00-01500 and 03300-00-00-01400. The Property adjoins the Rivanna Station and undeveloped, partially maintained open field.

It is the opinion of the environmental professional that this assessment has revealed no evidence of RECs in association with the Rivanna Station Addition Property.

11.0 DEVIATIONS

Chain of title was obtained for Parcel-A (Section 4.4) only. Initial data provided by the User indicated the presence of one parcel only.

12.0 ADDITIONAL SERVICES

No additional services were conducted for the Property during the assessment for this report.

13.0 REFERENCES

American Society for Testing and Materials (ASTM) ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process. 2005.

EDR Aerial Photo Decade Package, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 17, 2013.

EDR Certified Sanborn Map Report, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 17, 2013.

EDR Chain of Title Report, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. October 25, 2013.

EDR – City Directory Abstract, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 30, 2013.

EDR Historical Topographic Map Report, Rivanna Station (Addition) Property,Charlottesville, Virginia 22911. September 17, 2013.

EDR Radius Map Report with GeoCheck, Rivanna Station (Addition) Property, Charlottesville, Virginia 22911. September 17, 2013.

Kvech, Steve. (November 1, 2013) Telephone Interview.

Scope of Services Contract between HNTB Corporation and Williamsburg Environmental Group, Inc., April 2013.

United States. Environmental Protection Agency. Mid-Atlantic Corrective Action. Ge Intelligent Platforms Facility Report. 2013. <http://www.epa.gov>.

Virginia Department of Historic Resources. Virginia Cultural Resource Information System. 2013. <http://www.dhr.virginia.gov>.

SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience to assess a *property*. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Performed and Prepared By:

November 4, 2013

Tibby J. Lawrence
Regulatory Specialist II

Date

14.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL(S)

TIBBY J. LAWRENCE
Regulatory Specialist II

Contact: 804-267-3474, Email: tlawrence@wegnet.com

Ms. Lawrence's responsibilities as a Regulatory Specialist II with Williamsburg Environmental Group, Inc. (WEG) include permitting strategy, compliance inspection and reporting, wetland delineations, threatened and endangered species surveys, stormwater management compliance inspection and reporting, and Phase I Environmental Site Assessments. Ms. Lawrence has been conducting Phase I Environmental Site Assessments for over six years and has completed 60(+) Phase I Reports in her career. She has worked on projects governed by the Clean Water Act Sections 401 and 404, the Chesapeake Bay Preservation Act, Section 62.1-3 of the Code of Virginia, the Virginia Stormwater Management Act, Section 7 of the Threatened and Endangered Species Act, and Section 106 of the National Historic Preservation Act. Ms. Lawrence has experience in a wide spectrum of projects for utilities, municipalities, residential and commercial developers, and private landowners, with over 8 years of environmental project experience in Virginia, West Virginia, North Carolina, and Maryland.

EDUCATION

B.S., Environmental Science, Virginia Polytechnic Institute and State University, 2004.

EXPERIENCE

Regulatory Specialist II, Williamsburg Environmental Group, Inc., Richmond, Virginia, June 2011-Present

Environmental Specialist, Balzer and Associates, Inc., Richmond, Virginia, April 2005 - June 2011

Aquatic Biologist, Biological Monitoring Inc., Blacksburg, Virginia, January 2004 – March 2005

SPECIALIZED TRAINING

AAI & Liability: Prepare, Preserve, and Protect 12th Annual Due Diligence at Dawn Workshop Series, Washington D.C., May 19, 2006

ASTM Technical and Professional Training Course: Environmental Site Assessments for Commercial Real Estate Course, June 6-7, 2006

Implementing EPA's All Appropriate Inquiry (AAI) Regulation, Williams Mullen, September 14, 2006

APPENDIX A

Location & Vicinity Maps

&

Albemarle County GIS-Web Map & Parcel Information

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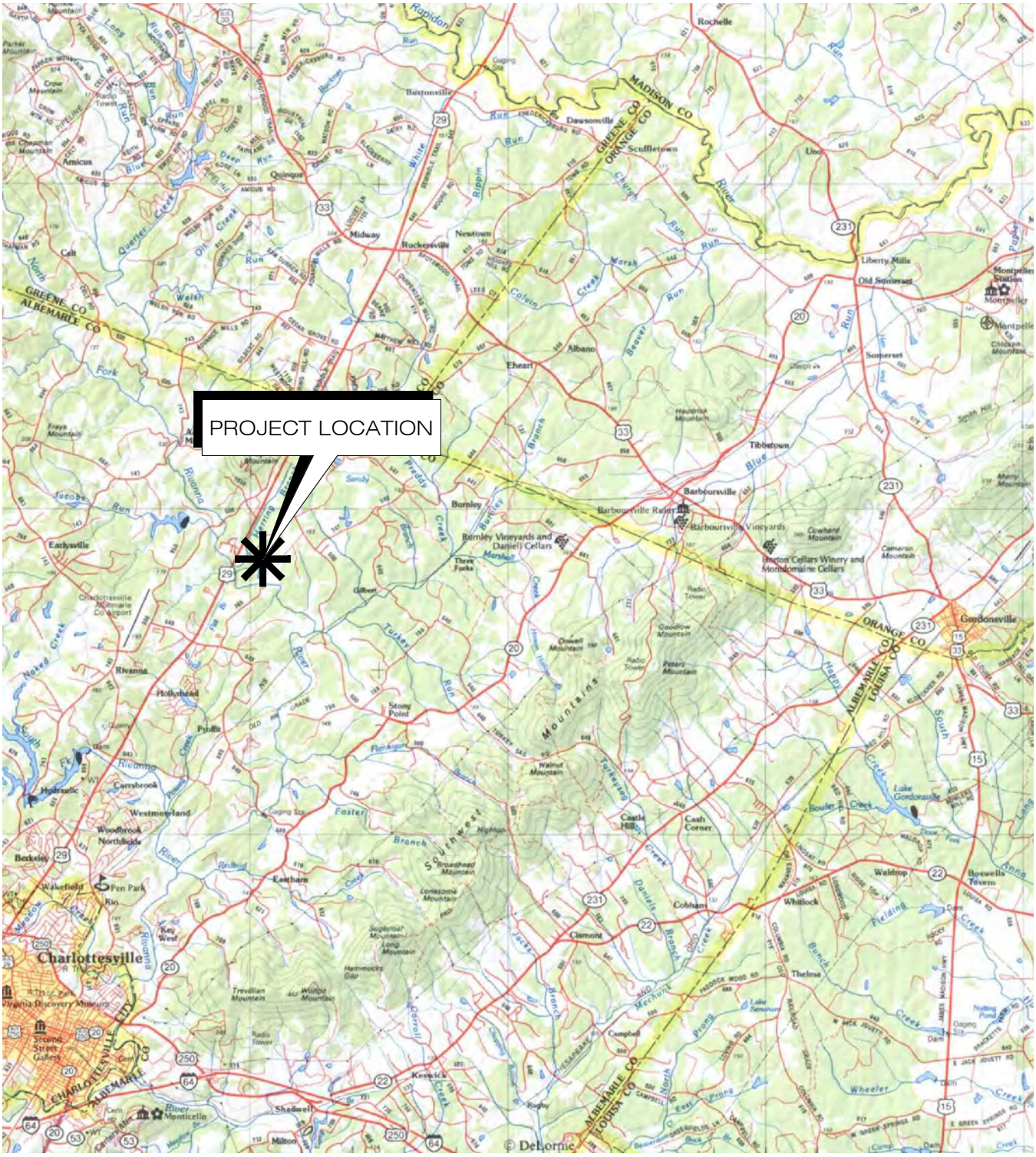


2.4 MILES 1.2 0 MILES 2.4 MILES

SCALE: 1 INCH = 2.4 MILES

SOURCE: VIRGINIA ATLAS AND GAZETTEER, DeLORME MAPPING CO., 2005.

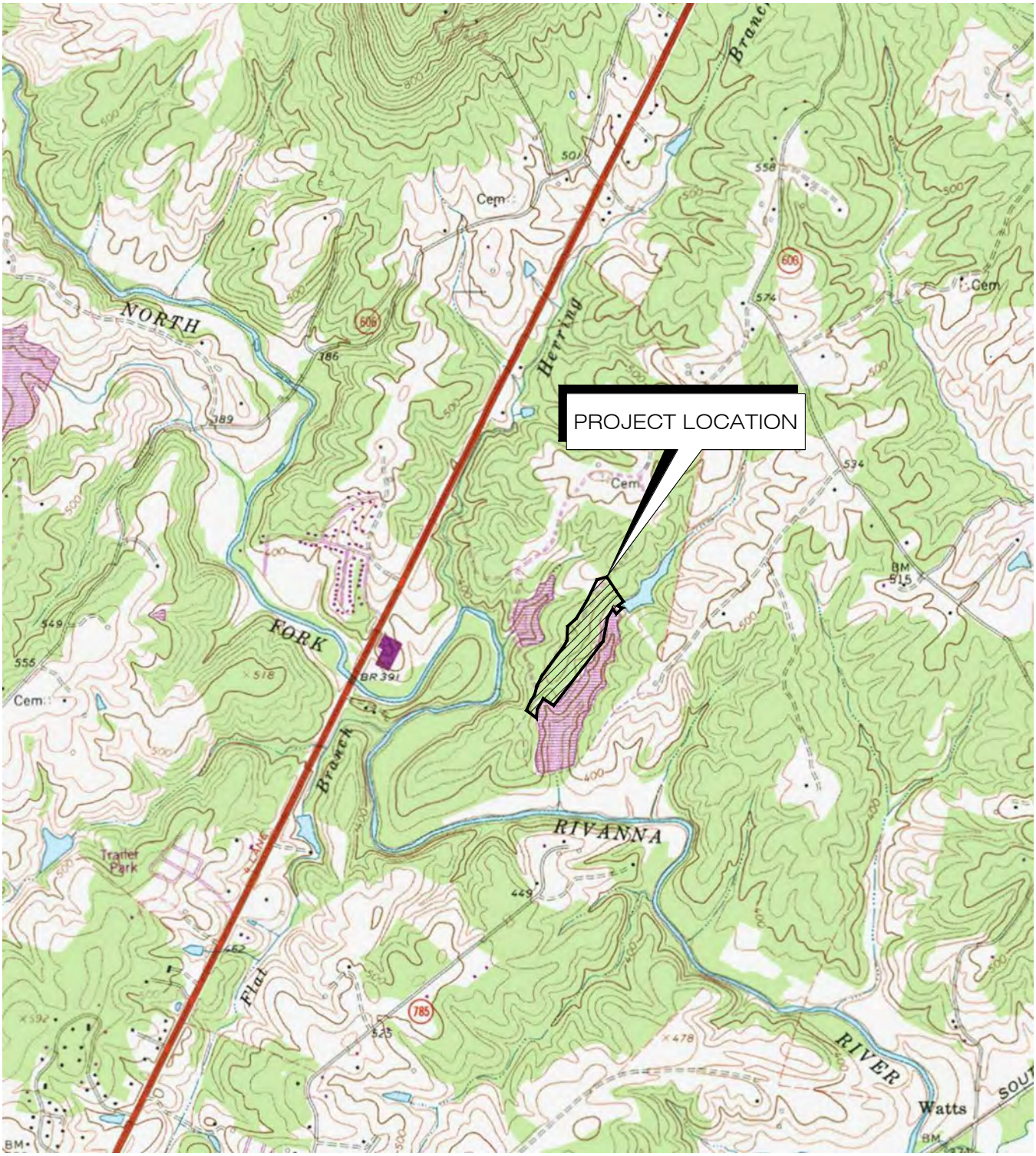
WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

FIGURE 1

PROJECT VICINITY MAP

RIVANNA STATION ADDITION

ALBEMARLE CO., VA | SEPTEMBER 2013



2000' 1000' 0' 2000'

SCALE: 1 INCH = 2000 FEET

LATITUDE: 38° 09' 14.04" N
LONGITUDE: 78° 24' 40.32" W

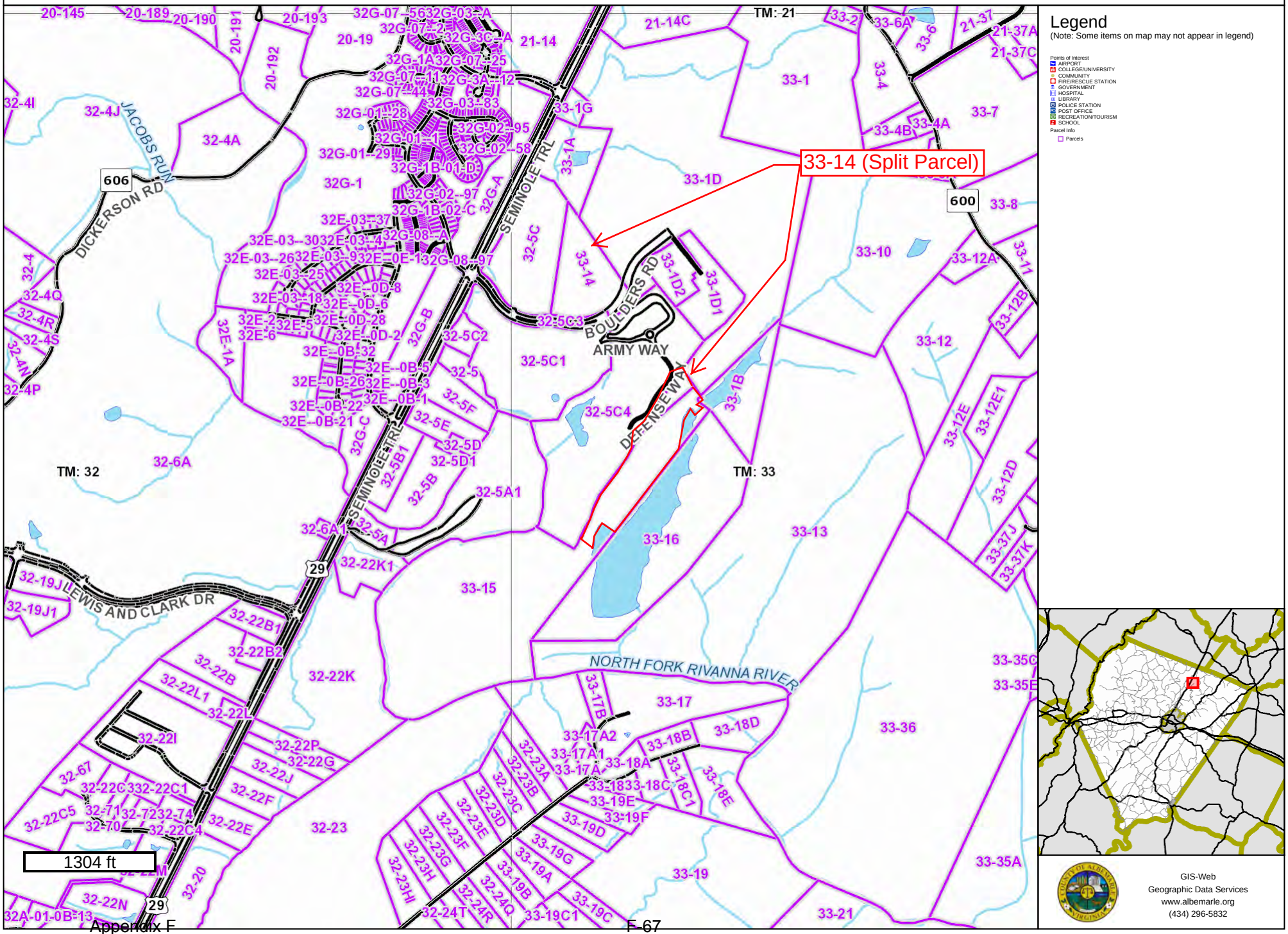
SOURCE: USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP,
EARLYSVILLE, VA QUADRANGLE,
1965 (REVISED 1984)

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

FIGURE 2
PROJECT LOCATION MAP
RIVANNA STATION ADDITION

ALBEMARLE CO., VA | SEPTEMBER 2013

Rivanna Station Addition



Map is for Display Purposes Only • Aerial Imagery from the Commonwealth of Virginia and Other Sources

September 20, 2013

Print

**********Identify Parcel Results**********

Parcel ID	03300-00-00-01500

Owner Information

Owner	NEXT GENERATION L L C
Address	P O BOX 5548 CHARLOTTESVILLE VA, 22905

Other Information

Primary Prop. Address	N/A
Other Address	N/A
Total Acres	89.0810
Subdivision	N/A

Most Recent Assessment Information

Year	2013
Assessment Date	01/01/2013
Assessment Reason	Reassessment
Land Value	$5,477,000
Land Use Value	$31,000
Improvements Value	$0
Total Value	$31,000

Most Recent Sales History

Previous Owner	N/A
Owner	NEXT GENERATION L L C
Sale Date	05/03/1996
Sale Price	$0
Deed Book/Page	1534/611
Validity of Sale (For Internal Use)	Deed of Gift

Print

**********Identify Parcel Results**********

Parcel ID	03300-00-00-01400

Owner Information

Owner	NEXT GENERATION L L C
Address	P O BOX 5548 CHARLOTTESVILLE VA, 22905

Other Information

Primary Prop. Address	N/A
Other Address	N/A
Total Acres	15.2120
Subdivision	N/A

Most Recent Assessment Information

Year	2013
Assessment Date	01/01/2013
Assessment Reason	Reassessment
Land Value	$1,426,100
Land Use Value	$0
Improvements Value	$0
Total Value	$1,426,100

Most Recent Sales History

Previous Owner	N/A
Owner	NEXT GENERATION L L C
Sale Date	01/30/1997
Sale Price	$0
Deed Book/Page	1534/611
Validity of Sale (For Internal Use)	Deed of Gift

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APPENDIX B

Scope of Services

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April 3, 2013

Ms. Barbara Kulvelis
HNTB Corporation
2900 South Quincy Street
Arlington, VA 22206

Re: **Proposal for Environmental Services and Service Agreement for Rivanna Station**
Albemarle County, Virginia
WEG Proposal #P09014

Dear Ms. Kulvelis:

In response to your request, Williamsburg Environmental Group, Inc. (WEG) is pleased to provide this proposal for environmental services to HNTB Corporation (Client) on the project generally described as Rivanna Station (Project). Under this proposal, WEG will provide wetland delineation, threatened and endangered species surveys, and Phase I ESA services. The following presents a brief discussion of the proposed scope of services.

SCOPE OF SERVICES

Delineation of Waters of the U.S.

WEG will conduct a detailed delineation of waters of the U.S., including wetlands (WOUS) within the new project area (approximately 14 acres), subject to jurisdiction by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. WEG will utilize the Routine Determination Method as outlined in the 1987 *Corps of Engineers Wetland Delineation Manual* and methods described in the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Eastern Mountains and Piedmont Region (Version 2.0)* to identify and delineate the wetland boundaries on the property. WEG will prepare a preliminary review of archival information of wetland features on-site, including available resources such as National Wetlands Inventory (NWI) Maps, U.S. Geologic Survey (USGS) topographic maps, aerial color infrared photography, and soils maps. Site visits will then be conducted to delineate and flag the boundaries of wetlands and other WOUS. The flagging will be numbered sequentially to assist in survey location, if necessary. WEG will record the necessary data to complete the wetland delineation data sheets, which are required by the Corps for confirmation.

In addition, WEG will revisit the undeveloped areas of the complex that were previously delineated, verify the previous delineation map, and resubmit to the Corps for inclusion in the new delineation.

Upon completion of the fieldwork, WEG proposes to prepare our findings for submittal to the Corps for obtaining the confirmation. The submittal will include data sheets, a letter summarizing our findings and describing characteristics of the site, as well as a Delineation Map depicting on-site boundaries of WOUS, including wetlands, and data point locations. A draft copy of the submittal will be provided to you for review. Upon your approval, WEG will submit the package to the Corps and will schedule an onsite meeting to review the delineation. Upon completion of the on-site visit, WEG will obtain the Corps' written confirmation of the delineation, which will be valid for a period of five (5) years from the date of the letter.

Threatened and Endangered Species (including Indiana bat (*Myotis sodalis* and loggerhead shrike (*Lanius ludovicianus*)

WEG proposes coordination with the U.S. Fish and Wildlife Service (FWS), Virginia Department of Game and Inland Fisheries (DGIF) and the Virginia Department of Conservation and Recreation – Division of Natural Heritage (DCR-DNH) to determine the known presence of any protected species within the project site or in the immediate vicinity. This task involves archival searches of existing database resources, requests for information, and field observation. In addition, WEG will provide qualified ecologists to assess habitat onsite for the Indiana bat (*Myotis sodalis)* and loggerhead shrike (*Lanius ludovicianus*) and provide a written report for use in the compilation of the Environmental Assessment.

This task will also include compiling a statement regarding Essential Fish Habitat (EFH).

Threatened and Endangered Mussel Survey

WEG proposes to utilize Daguna Consulting, LLC to survey the North Fork Rivanna River for mussels that are listed on the federal and state threatened and endangered list. This reach is known to contain habitat for many mussel species. This survey is proposed for 1000m of the river, which may include both on-site (property boundary) and off-site areas (Green's Pond outlet). The specific areas to be surveyed will be coordinated with the Client prior to beginning field work.

Phase 1 ESA – Acquisition Area Only

Site Visit — WEG will conduct a visual inspection of the approximate 14-acre subject site for Recognized Environmental Conditions (REC), including Petroleum Products and Hazardous Substances as defined in sections 3.2.61 and 3.2.36 of the Standard. Under these definitions, a REC may include, but is not limited to, aboveground storage tanks; storage of chemicals; presence of PCB-containing equipment; and any visual irregularities of the site's soil or vegetation, possibly indicating the presence of hazardous materials. Photographs of the site will be included in the final report in order to corroborate the inspection. In addition, a visual inspection regarding the land uses and existing conditions of adjacent properties will be included according to the Standard.

Site History — The history of the site will be traced through an examination of historical aerial photographs and topographic maps, interviews with onsite tenants (current owners), and examination of other historical documentation, as available. As required by the Standard, the Client (*User)* is responsible for providing an examination of recorded deeds for a sixty to one-hundred-year period, which will be analyzed as part of the site history. Interviews will be conducted with the current

landowner and/or occupants, and with state and/or local government officials in accordance with the Standard. The site history will be evidenced by reference to all documents in an appendix to the report. **The *User* must supply WEG with the contact information of the current landowner and/or tenants and recorded deeds for a sixty to one-hundred-year period. If this is not available, WEG will order the information directly for an addition fee of $400.**

Regulatory Agency Review of Site and Area Properties — Available public information relating to the site and adjacent sites, including pertinent state and federal records and items of environmental interest with regard to properties within a minimum of a one-mile radius of the site will be reviewed and evaluated.

Final Report — WEG will provide a final report, according to the Standard. Three copies of the report are included with this scope of services and additional copies must be requested prior to initiation of this contract and may require an additional charge.

In addition, it should be noted that according with the Standard, an ESA is reliable for 180 days from the date of the report. Therefore, please notify us within this 180-day period if reliance letters are needed, otherwise an ESA update will be required, and these services will be addressed in a separate scope of services. Some substances may be present on a property in quantities and under conditions that may lead to contamination of the property or of nearby properties, but are not included in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (43 U.S.C. § 19601) definition of hazardous substances or do not otherwise present potential CERCLA liability. These substances, including but not limited to asbestos-containing material (ACM), Radon, and Lead Based Paints (LBP), as detailed in section 13.1.1 of the Standard, are not included in this scope of services. In accordance with the Standard, this scope of services does not include any sampling, recommendations for sampling or remediation actions, or subsurface investigations/reporting, through WEG or third party consultants.

COST

The above-referenced scope of services is proposed to be charged on a lump sum basis, not to exceed **$19,000** without prior approval. Non-labor charges (mileage, reproduction, per-diem, etc.) will be charged according to the attached Standard Rate Schedule (Attachment A) and are included in the cost estimates below. This cost estimate is valid for a period of 90 days from the date of the proposal.

Task		**Cost**
Delineation of Waters of the US	$	4,900.00
Threatened and Endangered Species Assessment	$	3,200.00
Endangered Mussel Survey	$	5,800.00
Phase I Environmental Site Assessment	$	3,900.00
Chain of Title (if needed)	$	400.00
Non-labor	$	800.00
Total	**$**	**19,000.00**

If all of the provisions stated above meet with your approval, please indicate your acceptance by initialing each page of this document, including the attached Standard Rate Schedule (Attachment A) and Standard Contract Terms and Conditions (Attachment B) and by signing the attached Work

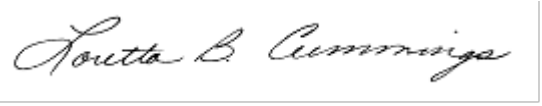
Authorization Form (Attachment C). Please return the originals to us and, upon acceptance, this document, inclusive of Attachments A, B, and C, will become the contract between WEG and HNTB Corporation.

WEG appreciates the opportunity to provide the above-referenced environmental services to HNTB Corporation for the Rivanna Station project. If you have any questions about anything contained in this proposal for environmental services, please contact me at 540-785-5544.

Sincerely,

Williamsburg Environmental Group, Inc.

By:



Loretta Cummings, Ph. D.
Senior Regulatory Specialist

Enclosure

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
2013 STANDARD RATE SCHEDULE

PROFESSIONAL STAFF

CLASSIFICATION	HOURLY RATE	CLASSIFICATION	HOURLY RATE
Principal	$ 150.00 - $ 185.00		
Senior Engineer	$ 100.00 - $ 170.00	Staff Engineer	$ 65.00 - $ 110.00
Senior Environmental Planner	$ 90.00 - $ 160.00	Staff Environmental Planner	$ 50.00 - $ 100.00
Senior Regulatory Specialist	$ 80.00 - $ 160.00	Staff Regulatory Specialist	$ 45.00 - $ 90.00
Senior Ecologist	$ 80.00 - $ 140.00	Staff Ecologist	$ 45.00 - $ 85.00
Senior Soil Scientist	$ 70.00 - $ 130.00	Staff Soil Scientist	$ 45.00 - $ 85.00
Senior Landscape Architect	$ 80.00 - $ 140.00	Staff Landscape Architect	$ 45.00 - $ 85.00
Senior Environmental Specialis	$ 80.00 - $ 110.00	Staff Environmental Specialist	$ 45.00 - $ 80.00
Senior GIS Analyst	$ 80.00 - $ 110.00	Staff GIS Analyst	$ 45.00 - $ 80.00
Senior Project Manager	$ 80.00 - $ 150.00	Regulatory Assistant	$ 35.00 - $ 55.00
TECHNICAL STAFF		**ADMINISTRATIVE STAFF**	
CAD Technician	$ 35.00 - $ 60.00	Clerical Support Staff	$ 30.00 - $ 65.00
CAD Designer	$ 45.00 - $ 85.00		
Site Specialist	$ 35.00 - $ 70.00		
Engineering Technician	$ 35.00 - $ 65.00		
Environmental Technician	$ 35.00 - $ 65.00		

REIMBURSABLE EXPENSES

COMPUTER/REPRODUCTION RATES

In-House Plots	$ 10.50/Each	In-House Black & White Copies	$ .06/copy
Large-Format Copies	$ .16/sq. ft	In-House Color Copies	$ 1.05/copy
Other Reproduction	At Cost*		

MILEAGE $ .56500/Mile; $ .65500/Mile for 4-Wheel Drive
(Subject to change based on current IRS standard)

TRAVEL Travel and Expenses at Cost

*There is a 15% handling fee added for all purchased services unless exception provided in written agreement.

ATTACHMENT B

STANDARD CONTRACT TERMS AND CONDITIONS

1. WEG provides monthly invoices for services rendered. Payment is due by Client within 30 days of date of invoice. Any amounts past due will incur a finance charge of 1.5% per month (18% *per annum*). Although we do not anticipate a problem with prompt payment, should WEG need to engage an attorney to collect any amount past due, WEG shall be entitled to its costs and fees, including attorneys' fees, in addition to the amount past due and accrued finance charges.

2. Until all amounts due have been paid, any work product related to the project set forth above (including reports and permits) remain the property of WEG, and WEG reserves the right to retain possession of its work product until payment is made.

3. Client agrees to indemnify WEG for any and all claims not caused directly and solely by the gross negligence of WEG or its employees/agents.

4. This agreement represents the entire agreement between the parties, and cannot be altered except by a written agreement signed by both parties. In the event any provision of this agreement is deemed invalid for any reason, the remaining provisions of this agreement shall remain in full force and effect.

5. Any notice provided to either party to this agreement must be made in writing, signed by the party serving it, and must be delivered by hand or by certified mail, return receipt requested, to Client's address above or to WEG's address as stated in its letterhead.

6. This agreement is governed by the laws of the Commonwealth of Virginia, and any legal action pertaining to this agreement must be brought in the courts of the City of Williamsburg/County of James City.

7. If Client is a corporation, limited liability company, partnership or any other type of business association, the person entering into this agreement on behalf of Client, by signing the Work Authorization Form (Attachment C), is warranting that (s)he has authority to bind Client to the terms stated herein. In the event the person signing this agreement does not have the warranted authority, that person agrees to be personally liable. If accepted, this agreement is binding on WEG and Client and inures the benefit of the parties and their heirs, representatives, successors and assigns.

ATTACHMENT C

WORK AUTHORIZATION FORM

WEG Proposal #: P09014
Date: April 3, 2013
Scope of Work: Delineation, T&E, Phase I ESA
Project: Rivanna Station
Project Location: Albemarle County, Virginia

CLIENT INFORMATION

Name of Client Company	HNTB Corporation
Client Contact Name	Barbara Kulvelis
Telephone Number	703-253-5867
Fax Number	
Email Address	BKulvelis@HNTB.com
Billing Address	2900 South Quincy Street, Arlington, VA 22206

PROPERTY INFORMATION

Property Address	Route 29 – Seminole Trail
Parcel ID (Tax Map ID # / GPIN)	
Property Owner	US Army
Developer	US Army
General Contractor	

This agreement is intended to be:

☐ direct contract with _____ as developer of project
☒ subcontract with HNTB Corporation as agent of developer/general contractor
☐ subcontract with _____ as general contractor for project

APPROVAL

I have read and understood the scope of services, costs, and contract provisions and Attachments A, B, and C and warrant that I am authorized to agree to said provisions and do agree on behalf of HNTB Corporation, effective as of the date of signature below.

Approved by:

Signature	Date
Printed Name	Title at Organization

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APPENDIX C

User Provided Information:

Plate 2.3 Site Topography Map

Plate 2.7 Existing Land Use Patterns

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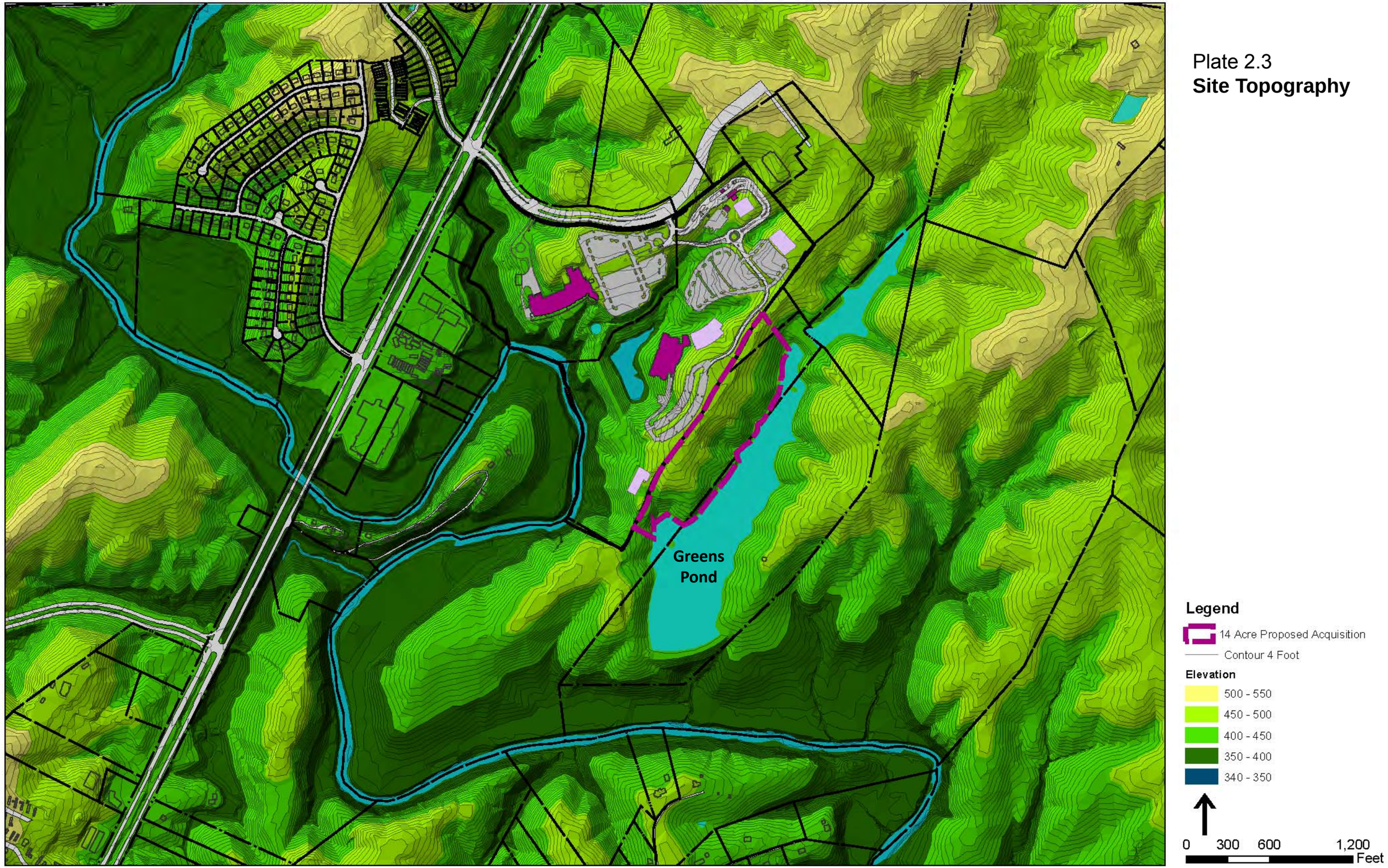

Plate 2.3
Site Topography

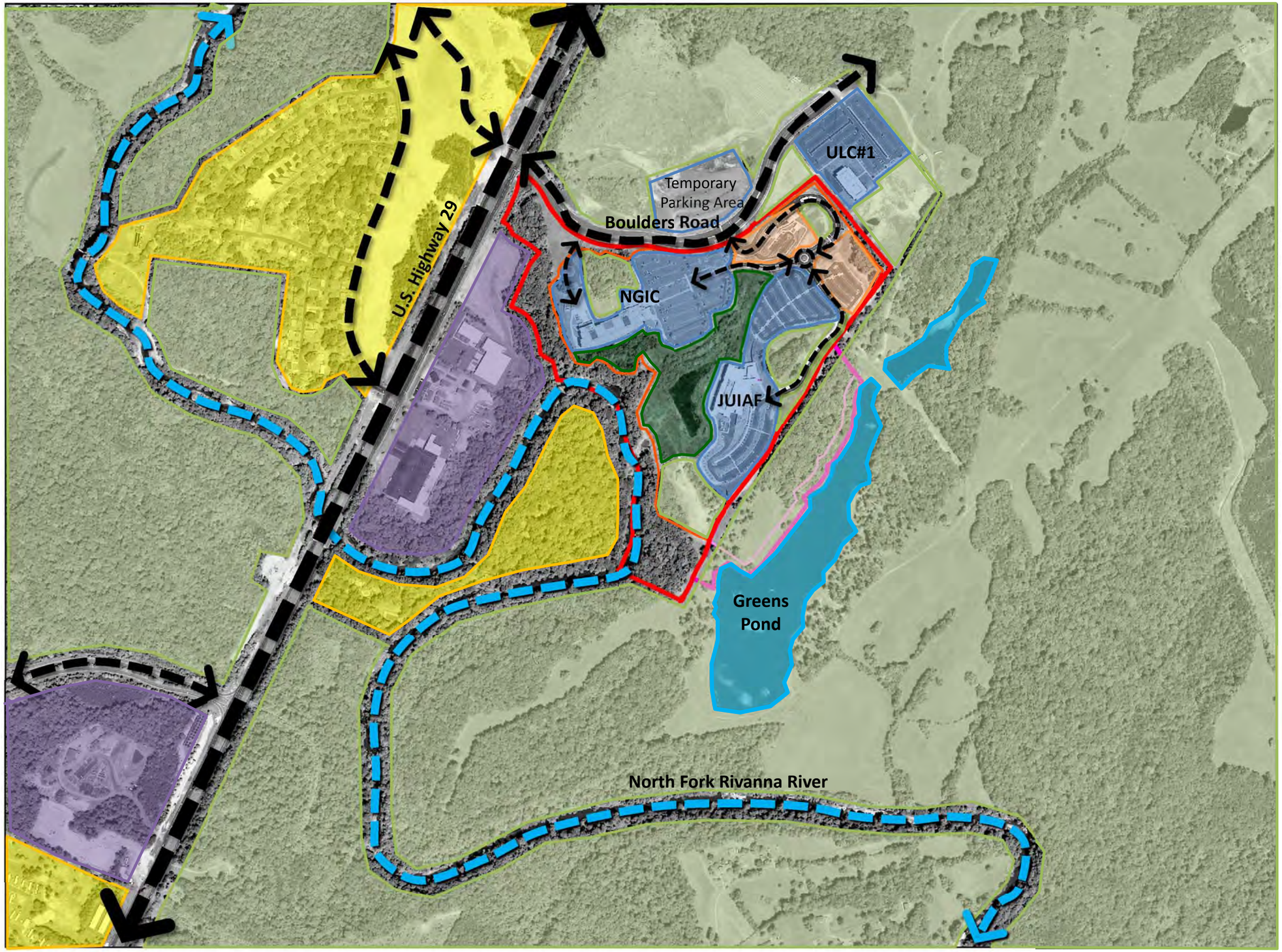

Plate 2.7

Existing Land Use Patterns

Generalized Land Use per Army Classifications

- Environmental Areas/ Open Space
- Vacant/Agricultural/Forest
- Residential
- Community
- Professional/Institutional
- Industrial

Planning Area Boundaries

- Existing Station Boundary
- Existing Station Fenceline

Major Landform Features

- Major Roadways
- North Fork Rivana River
- Greens Pond

0 300 600 Feet

APPENDIX D

EDR Radius Map Report

GE Intelligent Platforms EPA Mid-Atlantic Corrective Action Facility Report

EDR Provided Sandborn Maps, City Directory, and Chain of Title

DHR V-CRIS Map and Record

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Rivanna Station
N/A
Charlottesville, VA 22911

Inquiry Number: 3729346.2s
September 17, 2013

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

FORM-STD-CCA

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

N/A
CHARLOTTESVILLE, VA 22911

COORDINATES

Latitude (North):	38.1539000 - 38˚ 9' 14.04''
Longitude (West):	78.4112000 - 78˚ 24' 40.32''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	726838.1
UTM Y (Meters):	4225852.0
Elevation:	465 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	38078-B4 EARLYSVILLE, VA
Most Recent Revision:	1984

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2012
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List

EXECUTIVE SUMMARY

Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls
LUCIS ..... Land Use Control Information System

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

VA SHWS ..... This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State and tribal landfill and/or solid waste disposal site lists

VA SWF/LF ..... Solid Waste Management Facilities

State and tribal leaking storage tank lists

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

VA UST ..... Registered Petroleum Storage Tanks
VA AST ..... Registered Petroleum Storage Tanks
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

VA ENG CONTROLS ..... Engineering Controls Sites Listing
VA INST CONTROL ..... Voluntary Remediation Program Database

State and tribal voluntary cleanup sites

VA VCP ..... Voluntary Remediation Program
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

VA BROWNFIELDS ..... Brownfields Site Specific Assessments

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
US HIST CDL ..... National Clandestine Laboratory Register

Local Land Records

LIENS 2 ..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
VA SPILLS 90 ..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ..... RCRA - Non Generators
DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites
CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
UMTRA ..... Uranium Mill Tailings Sites
US MINES ..... Mines Master Index File
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
SSTS ..... Section 7 Tracking Systems
ICIS ..... Integrated Compliance Information System
PADS ..... PCB Activity Database System

MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
VA UIC	Underground Injection Control Wells
VA DRYCLEANERS	Drycleaner List
VA ENF	Enforcement Actions Data
VA NPDES	Comprehensive Environmental Data System
VA AIRS	Permitted Airs Facility List
VA TIER 2	Tier 2 Information Listing
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
VA Financial Assurance	Financial Assurance Information Listing
VA COAL ASH	Coal Ash Disposal Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
EPA WATCH LIST	EPA WATCH LIST
PRP	Potentially Responsible Parties
LEAD SMELTERS	Lead Smelter Sites
PCB TRANSFORMER	PCB Transformer Registration Database
US FIN ASSUR	Financial Assurance Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 07/11/2013 has revealed that there is 1

CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GE INTELLIGENT PLATFORMS	***2500 AUSTIN DRIVE***	***NNW 1/2 - 1 (0.817 mi.)***	***2***	***7***

State and tribal leaking storage tank lists

VA LUST: The Leaking Underground Storage Tank Database.

A review of the VA LUST list, as provided by EDR, and dated 05/18/2004 has revealed that there is 1 VA LUST site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
VAN DERVEER RENTAL PROPERTY Facility Status: Closed	***3997 RIVERVIEW LN***	***S 1/4 - 1/2 (0.445 mi.)***	***1***	***7***

VA LTANKS: The Leaking Tanks Database contains current Leaking petroleum tanks. The data comes from the Department of Environmental Quality.

A review of the VA LTANKS list, as provided by EDR, and dated 08/02/2013 has revealed that there is 1 VA LTANKS site within approximately 0.5 miles of the target property.

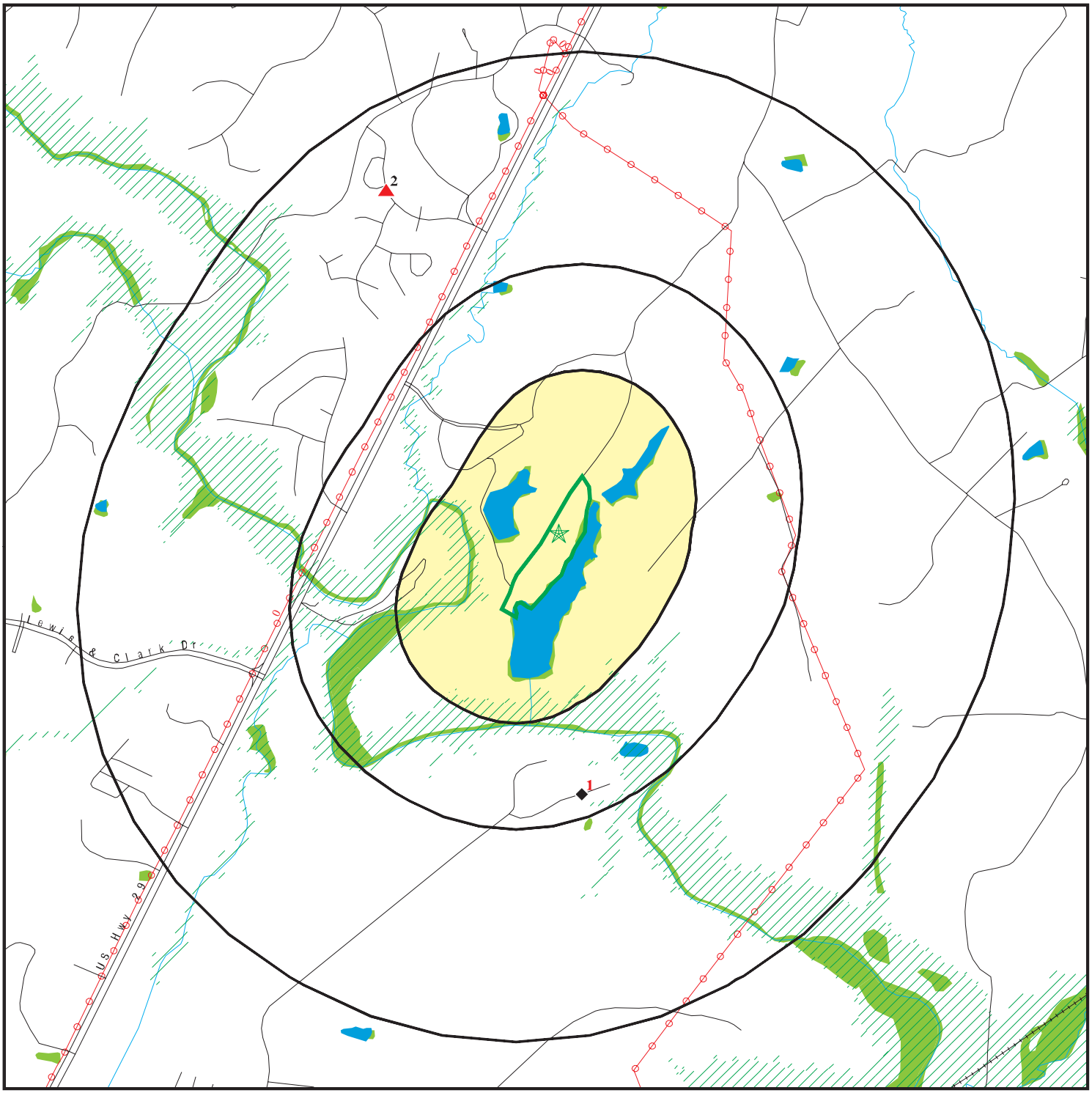
Lower Elevation	Address	Direction / Distance	Map ID	Page
VAN DERVEER RENTAL PROPERTY Facility Status: Closed	***3997 RIVERVIEW LN***	***S 1/4 - 1/2 (0.445 mi.)***	***1***	***7***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 17 records.

Site Name	Database(s)
LOVING RESIDENCE WELL/AST (SLS)	VA LUST
VDOT RT 20, ALBEMARLE CO	VA LUST, VA LTANKS
STONEY POINT ROAD	VA LUST, VA LTANKS
BLACK INDUSTRIES	VA LUST
MOORES BUILDING SUPPLY	VA LUST, VA LTANKS
VIRGINIA LAND CO.	VA LUST, VA LTANKS
CLOVER LAWN STORE	VA LUST, VA LTANKS
DUDDLEY RESIDENCE	VA LUST
H T PIPPIN WELL	VA LUST
RHODES GENERAL STORE	VA LUST, VA LTANKS, VA UST
EXXON STATION - HIGH STREET	VA LUST, VA LTANKS
C & O RAILWAY CO - CHARLOTTESVILLE	VA LUST, VA LTANKS
JERRY STEELE RESIDENCE	VA LUST, VA LTANKS
HOLLYMEAD DEVELOPMENT	VA LUST, VA LTANKS
HERDONS	VA UST, VA Financial Assurance
RIVANNA AUTH-BROWNSVILLE	FINDS
GOCO INC - SHADWELL STATION AND BU	FINDS

OVERVIEW MAP - 3729346.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

0 1/4 1/2 1 Miles

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville VA 22911 LAT/LONG: 38.1539 / 78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY #: 3729346.2s DATE: September 17, 2013 9:42 am

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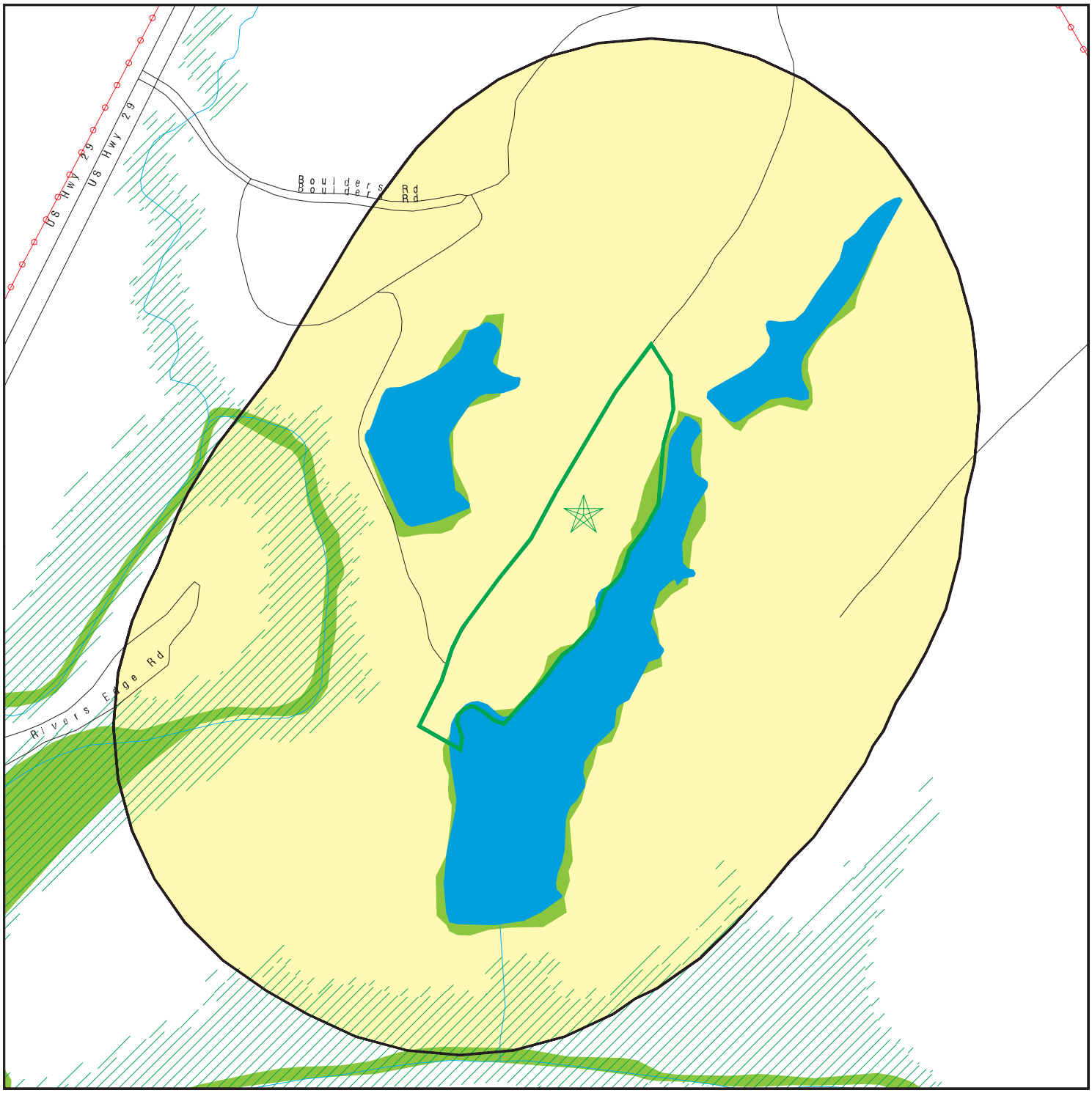
DETAIL MAP - 3729346.2s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville VA 22911 LAT/LONG: 38.1539 / 78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY #: 3729346.2s DATE: September 17, 2013 9:43 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	1	NR	1
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
VA SHWS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
State and tribal landfill and/or solid waste disposal site lists								
VA SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
VA LUST	0.500		0	0	1	NR	NR	1
VA LTANKS	0.500		0	0	1	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
VA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
VA AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
VA ENG CONTROLS	0.500		0	0	0	NR	NR	0
VA INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VA VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
VA BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
VA SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
VA UIC	TP		NR	NR	NR	NR	NR	0
NJ MANIFEST	0.250		0	0	NR	NR	NR	0
NY MANIFEST	0.250		0	0	NR	NR	NR	0
RI MANIFEST	0.250		0	0	NR	NR	NR	0
VA DRYCLEANERS	0.250		0	0	NR	NR	NR	0
VA ENF	TP		NR	NR	NR	NR	NR	0
VA NPDES	TP		NR	NR	NR	NR	NR	0
VA AIRS	TP		NR	NR	NR	NR	NR	0
VA TIER 2	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
VA Financial Assurance	TP		NR	NR	NR	NR	NR	0
VA COAL ASH	0.500		0	0	0	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

1
South
1/4-1/2
0.445 mi.
2348 ft.

VAN DERVEER RENTAL PROPERTY
3997 RIVERVIEW LN
CHARLOTTESVILLE, VA

VA LUST **S105860640**
VA LTANKS **N/A**

Relative:
Lower

Actual:
424 ft.

LUST REG VA:

Region:	Valley
Facility Status:	**Closed**
Release Status:	Confirmed
Pollution Complaint #:	20036129
Program:	RP Lead
Contact Name:	Van Deveer, Robert
Contact Address:	875 Millers Cottage Lane
Contact City:	Earlysville
Contact State:	VA
Contact Zip:	22936
Contact Telephone:	Not reported

LTANKS:

Region:	VRO
CEDS Facility Id:	200000210768
Case Status:	**Closed**
Pollution Complaint #:	20036129
Reported:	05/16/2003

2
NNW
1/2-1
0.817 mi.
4316 ft.

GE INTELLIGENT PLATFORMS
2500 AUSTIN DRIVE
CHARLOTTESVILLE, VA 22911

RCRA-TSDF **1000227832**
CORRACTS **VAD980551782**
RCRA-SQG
RI MANIFEST
NY MANIFEST
NJ MANIFEST
2020 COR ACTION

Relative:
Higher

Actual:
509 ft.

RCRA-TSDF:

Date form received by agency:	03/22/2010
Facility name:	GE INTELLIGENT PLATFORMS
Facility address:	2500 AUSTIN DRIVE CHARLOTTESVILLE, VA 22911
EPA ID:	VAD980551782
Mailing address:	AUSTIN DRIVE CHARLOTTESVILLE, VA 22911
Contact:	CLAYT D LAUTER
Contact address:	AUSTIN DRIVE CHARLOTTESVILLE, VA 22911
Contact country:	US
Contact telephone:	(434) 978-6079
Contact email:	CLAYT.LAUTER@GE.COM
EPA Region:	03
Land type:	Private
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste

Owner/Operator Summary:

Owner/operator name:	GE FANUC AUTOMATION MFG INC
Owner/operator address:	PO BOX 8106 CHARLOTTESVILLE, VA 22906
Owner/operator country:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Owner/operator telephone: (804) 978-5421
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: GE INTELLIGENT PLATFORMS
Owner/operator address: AUSTI DRIVE
CHARLOTTESVILLE, VA 22911
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1972
Owner/Op end date: Not reported

Owner/operator name: GE FANUC AUTOMATION NA INC
Owner/operator address: RTE 29 N AT RTE 606
CHARLOTTESVILLE, VA 22901
Owner/operator country: Not reported
Owner/operator telephone: (804) 978-5000
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: GE INTELLIGENT PLATFORMS
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/01/1972
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 03/03/2010
Facility name: GE INTELLIGENT PLATFORMS

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Classification: Small Quantity Generator

Date form received by agency: 01/20/2009
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC INTELLIGENT PLATFORMS
Classification: Small Quantity Generator

Date form received by agency: 02/27/2008
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC INTELLIGENT PLATFORMS
Classification: Large Quantity Generator

Date form received by agency: 02/17/2006
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION
Classification: Large Quantity Generator

Date form received by agency: 03/11/2004
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION
Classification: Large Quantity Generator

Date form received by agency: 02/21/2002
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION
Classification: Large Quantity Generator

Date form received by agency: 03/15/2001
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION
Classification: Large Quantity Generator

Date form received by agency: 10/05/1999
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION MFG INC
Classification: Large Quantity Generator

Date form received by agency: 07/01/1998
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION NORTH AMERICA, INC
Classification: Large Quantity Generator

Date form received by agency: 02/23/1996
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION
Classification: Large Quantity Generator

Date form received by agency: 02/23/1994
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION NA INC
Classification: Large Quantity Generator

Date form received by agency: 02/25/1992
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION
Classification: Large Quantity Generator

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date form received by agency: 03/01/1990
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION
Classification: Large Quantity Generator

Date form received by agency: 11/19/1980
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION MFG INC
Classification: Not a generator, verified

Date form received by agency: 08/18/1980
Facility name: GE INTELLIGENT PLATFORMS
Site name: GE FANUC AUTOMATION MFG INC
Classification: Large Quantity Generator

Hazardous Waste Summary:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D006
Waste name: CADMIUM

Waste code: D008
Waste name: LEAD

Waste code: D011
Waste name: SILVER

Waste code: D035
Waste name: METHYL ETHYL KETONE

Waste code: D040
Waste name: TRICHLOROETHYLENE

Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F006
Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Waste code: F007
Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS

Waste code: F008
Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT

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WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

Waste code: D008
Waste name: LEAD

Waste code: D009
Waste name: MERCURY

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: P098
Waste name: POTASSIUM CYANIDE

Waste code: U002
Waste name: ACETONE (I)

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE

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MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D006
Waste name: CADMIUM

Waste code: D008
Waste name: LEAD

Waste code: D009
Waste name: MERCURY

Waste code: D011
Waste name: SILVER

Waste code: D035
Waste name: METHYL ETHYL KETONE

Waste code: D040
Waste name: TRICHLOROETHYLENE

Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS

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CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F006
Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Waste code: F007
Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS

Waste code: F008
Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.

Waste code: U220
Waste name: BENZENE, METHYL-

Corrective Action Summary:

Event date: 05/15/1991
Event: RFA Completed

Event date: 11/01/1991
Event: CA Prioritization, Facility or area was assigned a medium corrective action priority.

Event date: 03/17/1993
Event: Stabilization Measures Evaluation,This facility is not amenable to stabilization activity because of a lack of technical data. An evaluation has been completed, but further data is necessary to determine stabilization measures, feasibility or appropriateness. This status should be changed when data becomes available.

Event date: 11/04/2004
Event: RFI Imposition

Event date: 06/21/2010
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control

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at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 06/21/2010
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 08/23/2010
Event: CA900NC

Event date: 08/23/2010
Event: CA800YE

Event date: 08/23/2010
Event: Corrective Action Process Terminated, No Further Action

Event date: 08/23/2010
Event: Date For Remedy Selection (CM Imposed)

Event date: 08/23/2010
Event: CA550NR

Facility Has Received Notices of Violations:
Regulation violated: FS - 40 CFR 264/265.52.c
Area of violation: TSD - Preparedness and Prevention
Date violation determined: 09/29/2005
Date achieved compliance: 10/21/2005
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/30/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 40 CFR 264/265.173
Area of violation: TSD - Container Use and Management
Date violation determined: 09/29/2005
Date achieved compliance: 10/21/2005
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/30/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported

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Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FS - 40 CFR 264/265.53
Area of violation: TSD - Preparedness and Prevention
Date violation determined: 09/29/2005
Date achieved compliance: 10/21/2005
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/30/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FS - 40 CFR 264/265.37a.4
Area of violation: TSD - Preparedness and Prevention
Date violation determined: 09/29/2005
Date achieved compliance: 10/21/2005
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/30/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - VHWMR 6.5.C.1.b.
Area of violation: Generators - Records/Reporting
Date violation determined: 08/20/1997
Date achieved compliance: 08/28/1997
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/02/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - VHWMR 6.4.E.3.a.2
Area of violation: Generators - Pre-transport
Date violation determined: 08/20/1997
Date achieved compliance: 09/29/1997
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/02/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported

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Paid penalty amount: Not reported

Regulation violated: SR - VHWMR 9.1.D.1
Area of violation: TSD - Container Use and Management
Date violation determined: 08/20/1997
Date achieved compliance: 09/29/1997
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/02/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - PERMIT EXHIBIT I-2
Area of violation: TSD IS-Chemical, Physical, AND Treatment
Date violation determined: 08/20/1997
Date achieved compliance: 09/29/1997
Violation lead agency: State
Enforcement action: INSPECTOR FACT FINDING LETTER - Warning letter
Enforcement action date: 09/02/1997
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Tank System Standards
Date violation determined: 05/04/1995
Date achieved compliance: 07/18/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/07/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 6.4.E.3.a.(1)9.8.0.1.
Area of violation: Generators - General
Date violation determined: 05/04/1995
Date achieved compliance: 07/18/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/07/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

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Regulation violated:	SR - 6.4.E.3.a.(1)9.8.D.1.
Area of violation:	Generators - General
Date violation determined:	05/04/1995
Date achieved compliance:	07/18/1995
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	06/07/1995
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	Not reported
Area of violation:	TSD - General
Date violation determined:	05/04/1995
Date achieved compliance:	07/18/1995
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	06/07/1995
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	SR - 6.4.E.1.b
Area of violation:	Generators - Pre-transport
Date violation determined:	05/04/1995
Date achieved compliance:	07/18/1995
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	06/07/1995
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	SR - VHWMR 9.9.D.5.6.4.
Area of violation:	TSD - Tank System Standards
Date violation determined:	08/20/1993
Date achieved compliance:	05/04/1995
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	08/20/1993
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	SR - VHWMR 9.9.F.1.

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Area of violation:	TSD - Tank System Standards
Date violation determined:	08/20/1993
Date achieved compliance:	09/10/1993
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	08/20/1993
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	SR - VHWMR 9.8.3.
Area of violation:	TSD - Container Use and Management
Date violation determined:	08/20/1993
Date achieved compliance:	08/20/1993
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	08/20/1993
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	SR - VHWMR 6.4.E.1.c.
Area of violation:	Generators - Pre-transport
Date violation determined:	08/20/1993
Date achieved compliance:	08/20/1993
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	08/20/1993
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	Not reported
Area of violation:	TSD - Closure/Post-Closure
Date violation determined:	09/13/1991
Date achieved compliance:	03/31/1992
Violation lead agency:	State
Enforcement action:	Not reported
Enforcement action date:	Not reported
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	Not reported
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	Not reported
Area of violation:	TSD - Financial Requirements

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Date violation determined: 05/14/1991
Date achieved compliance: 08/06/1991
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 11/19/1990
Date achieved compliance: 01/16/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/12/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 11/01/1989
Date achieved compliance: 01/26/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/22/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 11/01/1989
Date achieved compliance: 11/29/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/22/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 09/12/2007
Evaluation: FOCUSED COMPLIANCE INSPECTION

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Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/06/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/29/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 10/21/2005
Evaluation lead agency: State

Evaluation date: 09/29/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Preparedness and Prevention
Date achieved compliance: 10/21/2005
Evaluation lead agency: State

Evaluation date: 08/07/2003
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/09/2001
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/27/1999
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/20/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: 08/28/1997
Evaluation lead agency: State

Evaluation date: 08/20/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD IS-Chemical, Physical, AND Treatment
Date achieved compliance: 09/29/1997
Evaluation lead agency: State

Evaluation date: 08/20/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 09/29/1997
Evaluation lead agency: State

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Evaluation date: 08/20/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 09/29/1997
Evaluation lead agency: State

Evaluation date: 04/11/1997
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/06/1996
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/04/1995
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 07/18/1995
Evaluation lead agency: State

Evaluation date: 05/04/1995
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 07/18/1995
Evaluation lead agency: State

Evaluation date: 05/04/1995
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Tank System Standards
Date achieved compliance: 07/18/1995
Evaluation lead agency: State

Evaluation date: 05/04/1995
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 07/18/1995
Evaluation lead agency: State

Evaluation date: 04/24/1995
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/11/1994
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/20/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date achieved compliance: 08/20/1993
Evaluation lead agency: State

Evaluation date: 08/20/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Tank System Standards
Date achieved compliance: 09/10/1993
Evaluation lead agency: State

Evaluation date: 08/20/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Tank System Standards
Date achieved compliance: 05/04/1995
Evaluation lead agency: State

Evaluation date: 08/20/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 08/20/1993
Evaluation lead agency: State

Evaluation date: 03/31/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/13/1991
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 03/31/1992
Evaluation lead agency: State

Evaluation date: 05/14/1991
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 08/06/1991
Evaluation lead agency: State

Evaluation date: 11/19/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 01/16/1991
Evaluation lead agency: State

Evaluation date: 08/03/1990
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/21/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Evaluation date: 11/01/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 01/26/1990
Evaluation lead agency: State

Evaluation date: 11/01/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 11/29/1990
Evaluation lead agency: State

Evaluation date: 06/19/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/30/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/23/1988
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

CORRACTS:

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 19930317
Action: CA225IN - Stabilization Measures Evaluation, This facility is not, amenable to stabilization activity because of, a lack of technical data. An evaluation has been completed, but further data is necessary to determine stabilization measures, feasibility or appropriateness. This status should be changed when data becomes available
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 19910515
Action: CA050 - RFA Completed
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: 19910515
Schedule end date: Not reported

EPA ID: VAD980551782

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20100621
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20100621
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20100823
Action: CA999NF - Corrective Action Process Terminated, No Further Action
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20100823
Action: CA400 - Date For Remedy Selection (CM Imposed)
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20100823
Action: CA550NR
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20100823
Action: CA900NC
NAICS Code(s): 335314

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20100823
Action: CA800YE
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 19911101
Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: VAD980551782
EPA Region: 03
Area Name: ENTIRE FACILITY
Actual Date: 20041104
Action: CA100 - RFI Imposition
NAICS Code(s): 335314
Relay and Industrial Control Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

RI MANIFEST:
GEN Cert Date: 10/18/1989
Transporter Receipt Date: Not reported
Number Of Containers: 0
Container Type: Not reported
Waste Code1: D002
Waste Code2: Not reported
Waste Code3: Not reported
Comment: Not reported
Fee Exempt Code: Not reported
TSDF Name: ETICAM
TSDF ID: RID980906986
TSDF Date: Not reported
Transporter 2 Name: Not reported
Transporter 2 ID: Not reported
Manifest Docket Number: RIB0007974
Waste Description: COPPER SULFATE/ACID
Quantity: 4654
WT/Vol Units: G
Item Number: 1
Transporter Name: SJ
Transporter EPA ID: NJD071629976

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

GEN Cert Date:	10/18/1989
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	VAD980551782
Transporter 2 ID:	Not reported

NY MANIFEST:

EPA ID:	VAD980551782
Country:	USA
Mailing Name:	GE FANUC
Mailing Contact:	DAVID NOE
Mailing Address:	PO BOX 8106
Mailing Address 2:	Not reported
Mailing City:	CHARLOTTESVILLE
Mailing State:	VA
Mailing Zip:	22906
Mailing Zip4:	8106
Mailing Country:	USA
Mailing Phone:	804-978-5421

Document ID:	NYB9480555
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Trans2 State ID:	TIR1065OH
Generator Ship Date:	05/26/2004
Trans1 Recv Date:	05/26/2004
Trans2 Recv Date:	06/01/2004
TSD Site Recv Date:	06/03/2004
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	VAD980551782
Trans1 EPA ID:	NJD080631369
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	00250
Units:	P - Pounds
Number of Containers:	001
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	2004

Document ID:	NYB9480582
Manifest Status:	Not reported
Trans1 State ID:	Not reported
Trans2 State ID:	UPW012400
Generator Ship Date:	08/23/2004
Trans1 Recv Date:	08/23/2004
Trans2 Recv Date:	08/30/2004
TSD Site Recv Date:	09/13/2004
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Generator EPA ID:	VAD980551782
Trans1 EPA ID:	NJD060631369
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	00900
Units:	P - Pounds
Number of Containers:	002
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	2004

Document ID:	NYH0628038
Manifest Status:	Not reported
Trans1 State ID:	NJD080631369
Trans2 State ID:	OHD009846825
Generator Ship Date:	05/17/2005
Trans1 Recv Date:	05/17/2005
Trans2 Recv Date:	05/19/2005
TSD Site Recv Date:	05/31/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	VAD980551782
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	PUB5526OH
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	00050
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	Not reported

Document ID:	NYH0628038
Manifest Status:	Not reported
Trans1 State ID:	NJD080631369
Trans2 State ID:	OHD009846825
Generator Ship Date:	05/17/2005
Trans1 Recv Date:	05/17/2005
Trans2 Recv Date:	05/19/2005
TSD Site Recv Date:	05/31/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	VAD980551782
Trans1 EPA ID:	Not reported
Trans2 EPA ID:	PUB5526OH
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	00050
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CF - Fiber or plastic boxes, cartons

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	2005

Document ID:	NYB9614169
Manifest Status:	Not reported
Trans1 State ID:	NJD080631369
Trans2 State ID:	OHD009865825
Generator Ship Date:	02/08/2006
Trans1 Recv Date:	02/08/2006
Trans2 Recv Date:	02/08/2006
TSD Site Recv Date:	02/20/2006
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	VAD980551782
Trans1 EPA ID:	NJDEP0501
Trans2 EPA ID:	TIR1112OH
TSDF ID:	NYD049836679
Waste Code:	D005 - BARIUM 100.0 MG/L TCLP
Quantity:	00546
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	003
Container Type:	DM - Metal drums, barrels
Handling Method:	T Chemical, physical, or biological treatment.
Specific Gravity:	01.00
Year:	2006

Document ID:	NYB9614169
Manifest Status:	Not reported
Trans1 State ID:	NJD080631369
Trans2 State ID:	OHD009865825
Generator Ship Date:	02/08/2006
Trans1 Recv Date:	02/08/2006
Trans2 Recv Date:	02/08/2006
TSD Site Recv Date:	02/20/2006
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	VAD980551782
Trans1 EPA ID:	NJDEP0501
Trans2 EPA ID:	TIR1112OH
TSDF ID:	NYD049836679
Waste Code:	D005 - BARIUM 100.0 MG/L TCLP
Quantity:	00546
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	003
Container Type:	DM - Metal drums, barrels
Handling Method:	T Chemical, physical, or biological treatment.
Specific Gravity:	01.00
Year:	2006

NJ MANIFEST:

Manifest Code:	000166832VES
EPA ID:	VAD980551782
Date Shipped:	10/15/2009
TSDF EPA ID:	NJD980536593

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	NJD054126164
Transporter 3 EPA ID:	NJD080631369
Transporter 4 EPA ID:	NJD071629976
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	10/15/2009
Date Trans2 Transported Waste:	10/19/2009
Date Trans3 Transported Waste:	10/20/2009
Date Trans4 Transported Waste:	10/26/2009
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	10/26/2009
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D001
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	4
Unit:	K
Hand Code:	H141
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	4
Unit:	K
Hand Code:	H141
Waste Code:	D008

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Manifest Year:	2009 New Jersey Manifest Data
Quantity:	182
Unit:	K
Hand Code:	H141

Waste Code:	D003
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	1
Unit:	K
Hand Code:	H141

Waste Code:	D001
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	244
Unit:	K
Hand Code:	H141

Waste Code:	D001
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	27
Unit:	K
Hand Code:	H141

Waste Code:	D001
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	3
Unit:	K
Hand Code:	H141

Waste Code:	D002
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	5
Unit:	K
Hand Code:	H141

Manifest Code:	000166834VES
EPA ID:	VAD980551782
Date Shipped:	10/15/2009
TSDF EPA ID:	NJD002454544
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	NJD071629976
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	10/15/2009
Date Trans2 Transported Waste:	10/22/2009
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	10/22/2009
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	117
Unit:	K
Hand Code:	H141

Manifest Code:	NJA3079375
EPA ID:	VAD980551782
Date Shipped:	02/26/2004
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	OHD009865825
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	02/26/2004
Date Trans2 Transported Waste:	03/04/2004
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	03/11/2004
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	04020421
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported

Manifest Code:	NJA4050348
EPA ID:	VAD980551782
Date Shipped:	04/29/2004
TSDF EPA ID:	NJD002385730
Transporter EPA ID:	NJD054126164
Transporter 2 EPA ID:	Not reported
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	04/29/2004
Date Trans2 Transported Waste:	Not reported
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	04/29/2004
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	05120421
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported

Manifest Code:	NJA4065619
EPA ID:	VAD980551782
Date Shipped:	05/26/2004
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	OHD009865825
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	05/26/2004
Date Trans2 Transported Waste:	06/01/2004
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date TSDF Received Waste:	06/02/2004
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	06170425
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported

Manifest Code:	NJA4066733
EPA ID:	VAD980551782
Date Shipped:	02/14/2005
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	OHD009865825
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	02/14/2005
Date Trans2 Transported Waste:	02/17/2005
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	02/25/2005

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	04220522
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	Not reported
Manifest Year:	Not reported
Quantity:	Not reported
Unit:	Not reported
Hand Code:	Not reported

Manifest Code:	000174830VES
EPA ID:	VAD980551782
Date Shipped:	07/16/2009
TSDF EPA ID:	NJD002454544
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	NJD071629976
Transporter 3 EPA ID:	Not reported
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	07/16/2009
Date Trans2 Transported Waste:	07/21/2009
Date Trans3 Transported Waste:	Not reported
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	07/21/2009
Tranporter 1 Decal:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	37
Unit:	K
Hand Code:	H141
Waste Code:	F003
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	17
Unit:	K
Hand Code:	H061

Manifest Code:	000174831VES
EPA ID:	VAD980551782
Date Shipped:	07/16/2009
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	NJD054126164
Transporter 3 EPA ID:	NJD071629976
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	07/16/2009
Date Trans2 Transported Waste:	07/20/2009
Date Trans3 Transported Waste:	07/24/2009
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	07/24/2009
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	F003
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	5
Unit:	K
Hand Code:	H141
Waste Code:	D001
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	210
Unit:	K
Hand Code:	H141

Manifest Code:	000174832VES
EPA ID:	VAD980551782
Date Shipped:	07/16/2009
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369
Transporter 2 EPA ID:	NJD054126164
Transporter 3 EPA ID:	NJD071629976
Transporter 4 EPA ID:	Not reported
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	07/16/2009
Date Trans2 Transported Waste:	07/20/2009

GE INTELLIGENT PLATFORMS (Continued) **1000227832**

Date Trans3 Transported Waste:	07/24/2009
Date Trans4 Transported Waste:	Not reported
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	07/24/2009
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Generator EPA Facility Name:	Not reported
Transporter-1 EPA Facility Name:	Not reported
Transporter-2 EPA Facility Name:	Not reported
Transporter-3 EPA Facility Name:	Not reported
Transporter-4 EPA Facility Name:	Not reported
Transporter-5 EPA Facility Name:	Not reported
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D001
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	15
Unit:	K
Hand Code:	H141
Waste Code:	D009
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	5
Unit:	K
Hand Code:	H141
Waste Code:	D008
Manifest Year:	2009 New Jersey Manifest Data
Quantity:	177
Unit:	K
Hand Code:	H141

2020 COR ACTION:

EPA ID:	VAD980551782
Region:	3
Action:	Not reported

Count: 17 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BARBOURSVILLE	U003680511	HERDONS	RT 1	22923	VA UST, VA Financial Assurance
BARBOURSVILLE	S105982999	LOVING RESIDENCE WELL/AST (SLS)	RT 625	22923	VA LUST
CHARLOTTESVILLE	S105986330	VDOT RT 20, ALBEMARLE CO	RT 20		VA LUST, VA LTANKS
CHARLOTTESVILLE	S106444469	STONEY POINT ROAD	RT 20 N		VA LUST, VA LTANKS
CHARLOTTESVILLE	S102381147	BLACK INDUSTRIES	RT 250 E		VA LUST
CHARLOTTESVILLE	S104408500	MOORES BUILDING SUPPLY	RT 250 E		VA LUST, VA LTANKS
CHARLOTTESVILLE	S105986247	VIRGINIA LAND CO.	RT 250 E		VA LUST, VA LTANKS
CHARLOTTESVILLE	S105986343	CLOVER LAWN STORE	RT 3		VA LUST, VA LTANKS
CHARLOTTESVILLE	S104938546	DUDDLEY RESIDENCE	RT 53		VA LUST
CHARLOTTESVILLE	S109123081	H T PIPPIN WELL	RT 53		VA LUST
CHARLOTTESVILLE	U003694960	RHODES GENERAL STORE	RT 712		VA LUST, VA LTANKS, VA UST
CHARLOTTESVILLE	1016030126	RIVANNA AUTH-BROWNSVILLE	403 EIGHT ST NE		FINDS
CHARLOTTESVILLE	S107615203	EXXON STATION - HIGH STREET	E HIGH ST		VA LUST, VA LTANKS
CHARLOTTESVILLE	S107615217	C & O RAILWAY CO - CHARLOTTESVILLE	E MARKET ST		VA LUST, VA LTANKS
CHARLOTTESVILLE	1016128411	GOCO INC - SHADWELL STATION AND BU	E OF INTERSETION W & AT SHADW		FINDS
CHARLOTTESVILLE	S106906063	JERRY STEELE RESIDENCE	5556 SEMINOLE TRAIL RD	22923	VA LUST, VA LTANKS
CHARLOTTESVILLE	S108759513	HOLLYMEAD DEVELOPMENT	USHY 29 SEMINOLE TRAIL		VA LUST, VA LTANKS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 07/12/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/13/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/31/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/09/2012	Telephone: 703-603-8704
Date Made Active in Reports: 12/20/2012	Last EDR Contact: 07/08/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/13/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/29/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/29/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/17/2013
Date Made Active in Reports: 02/15/2013
Number of Days to Update: 29

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/01/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: Department of Environmental Quality
Telephone: 804-698-4236
Last EDR Contact: 06/20/2013
Next Scheduled EDR Contact: 10/07/2013
Data Release Frequency: N/A

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Management Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/18/2013
Date Data Arrived at EDR: 03/21/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 22

Source: Department of Environmental Quality
Telephone: 804-698-4238
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG SW: Leaking Underground Storage Tank Database

Leaking underground storage tank site locations. Includes: counties of Bland, Buchanan, Carroll, Dickenson, Grayson, Lee, Russell, Scott, Smyth, Tazewell, Washington, Wise, Wythe; cities of Bristol, Galax, Norton.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 09/16/2013
Number of Days to Update: 60

Source: Department of Environmental Quality Southwest Regional Office
Telephone: 276-676-4800
Last EDR Contact: 07/15/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: No Update Planned

LUST REG SC: Leaking Underground Storage Tanks

Leaking underground storage tank site locations. Includes: counties of Amherst, Appomattox, Buckingham, Campbell, Charlotte, Cumberland, Halifax, Lunenburg, Mecklenburg, Nottoway, Pittsylvania, Prince Deward; cities of Danville, Lynchburg.

Date of Government Version: 09/06/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 09/17/2013
Number of Days to Update: 11

Source: Department of Environmental Quality, South Central Region
Telephone: 434-582-5120
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

LUST REG PD: Leaking Underground Storage Tank Sites

Leaking underground storage tank site locaitons. Includes: counties of Amelia, Brunswick, Charles City, Chesterfield, Dinwiddie, Essex, Gloucester, Goochland, Greensville, Hanover, Henrico, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Northumberland, Powhatan, Prince George, Richmond, Surry, Sussex, Westmoreland; cities of Colonial Heights, Emporia, Hopewell, Petersburg.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 09/17/2013
Number of Days to Update: 14

Source: Department of Environmental Quality Piedmont Regional Office
Telephone: 804-527-5020
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Quarterly

LUST REG NO: Leaking Underground Storage Tank Tracking Database

Leaking underground storage tank site locations. Includes: counties of Arlington, Caroline, Culpeper, Fairfax, Fauquier, King George, Loudoun, Louisa, Madison, Orange, Prince William, Rappahannock, Spotsylvania, Stafford; cities of Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, Manassas Park.

Date of Government Version: 05/18/2004
Date Data Arrived at EDR: 05/22/2004
Date Made Active in Reports: 07/09/2004
Number of Days to Update: 48

Source: Department of Environmental Quality Northern Regional Office
Telephone: 703-583-3800
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG TD: Leaking Underground Storage Tank Sites
Leaking underground storage tank site locations. Includes: counties of Accomack, Isle of Wight, James City, Northampton, Southampton, York; cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, Williamsburg.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 09/16/2013
Number of Days to Update: 73

Source: Department of Environmental Quality Tidewater Regional Office
Telephone: trofoia@deq.vir
Last EDR Contact: 06/26/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

LUST REG WC: Leaking Underground Storage Tank List
Leaking underground storage tank site locations. Includes: counties of Alleghany, Bedford, Botetourt, Craig, Floyd, Franklin, Giles, Henry, Montgomery, Patrick, Pulaski, Roanoke; cities of Bedford, Clifton Forge, Covington, Martinsville, Radford, Roanoke, Salem.

Date of Government Version: 06/07/2013
Date Data Arrived at EDR: 06/07/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 47

Source: Department of Environmental Quality West Central Regional Office
Telephone: 540-562-6700
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

LUST REG VA: Leaking Underground Storage Tank List
Leaking underground storage tank site locations. Includes: counties of Albemarle, Augusta, Bath, Clarke, Fluvanna, Frederick, Greene, Highland, Nelson, Page, Rockbridge, Rockingham, Shenandoah, Warren; cities of Buena Vista, Charlottesville, Harrisonburg, Lexington, Staunton, Waynesboro, Winchester.

Date of Government Version: 12/06/2011
Date Data Arrived at EDR: 12/08/2011
Date Made Active in Reports: 01/16/2012
Number of Days to Update: 39

Source: Department of Environmental Quality Valley Regional Office
Telephone: 540-574-7800
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

LTANKS: Leaking Petroleum Storage Tanks
Includes releases of petroleum from underground storage tanks and aboveground storage tanks.

Date of Government Version: 08/02/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 09/16/2013
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 804-698-4010
Last EDR Contact: 09/06/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/01/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 162

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 02/08/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Registered Petroleum Storage Tanks
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 08/02/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 09/16/2013
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 804-698-4010
Last EDR Contact: 09/06/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

AST: Registered Petroleum Storage Tanks
Registered Aboveground Storage Tanks.

Date of Government Version: 08/02/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 09/16/2013
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 804-698-4010
Last EDR Contact: 09/06/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/07/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 156

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 02/08/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/02/2012
Date Data Arrived at EDR: 08/03/2012
Date Made Active in Reports: 11/05/2012
Number of Days to Update: 94

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 45

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Sites Listing

A listing of sites with Engineering Controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 06/27/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 70

Source: Department of Environmental Quality
Telephone: 804-698-4228
Last EDR Contact: 06/26/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

INST CONTROL: Voluntary Remediation Program Database

Sites included in the Voluntary Remediation Program database that have deed restrictions.

Date of Government Version: 06/27/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 70

Source: Department of Environmental Quality
Telephone: 804-698-4228
Last EDR Contact: 06/26/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

VRP: Voluntary Remediation Program
The Voluntary Cleanup Program encourages owners of elected contaminated sites to take the initiative and conduct voluntary cleanups that meet state environmental standards.

Date of Government Version: 06/27/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 70
Source: Department of Environmental Quality
Telephone: 804-698-4228
Last EDR Contact: 06/26/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 10/02/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 14
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/02/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Site Specific Assessments
To qualify for Brownfields Assessment, the site must meet the Federal definition of a Brownfields and should have contaminant issues that need to be addressed and a redevelopment plan supported by the local government and community. Virginia's Department of Environmental Quality performs brownfields assessments under a cooperative agreement with the U.S. Environmental Protection Agency at no cost to communities, property owners or, prospective purchasers. The assessment is an evaluation of environmental impacts caused by previous site uses similar to a Phase II Environmental Assessment.

Date of Government Version: 05/01/2013
Date Data Arrived at EDR: 05/02/2013
Date Made Active in Reports: 05/21/2013
Number of Days to Update: 19
Source: Department of Environmental Quality
Telephone: 804-698-4207
Last EDR Contact: 07/30/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 45
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 08/05/2013
Next Scheduled EDR Contact: 10/07/2013
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/26/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/31/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/04/2013
Date Data Arrived at EDR: 03/12/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 59

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/04/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Quarterly

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 55

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/01/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 09/01/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/15/2013
Number of Days to Update: 43

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/05/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 15

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 01/15/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 57

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/18/2012
Date Data Arrived at EDR: 03/13/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 30

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/28/2013
Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 04/18/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/30/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/07/2013
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/01/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2012
Date Data Arrived at EDR: 01/16/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 114

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/20/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 112

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/09/2013
Date Data Arrived at EDR: 04/11/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 29

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/12/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013
Date Data Arrived at EDR: 03/21/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 111

Source: EPA
Telephone: (215) 814-5000
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/24/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/26/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Biennially

UIC: Underground Injection Control Wells

A listing of underground injection controls wells.

Date of Government Version: 05/23/2013
Date Data Arrived at EDR: 05/24/2013
Date Made Active in Reports: 07/22/2013
Number of Days to Update: 59

Source: Department of Mines, Minerals and Energy
Telephone: 276-415-9700
Last EDR Contact: 08/01/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner List
A listing of registered drycleaners.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/07/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 804-698-4407
Last EDR Contact: 04/15/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Varies

ENFORCEMENT: Enforcement Actions Data
A listing of enforcement actions.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/14/2013
Number of Days to Update: 54

Source: Department of Environmental Quality
Telephone: 804-698-4031
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/24/2013
Data Release Frequency: Varies

CEDS: Comprehensive Environmental Data System
Virginia Water Protection Permits, Virginia Pollution Discharge System (point discharge) permits and Virginia Pollution Abatement (no point discharge) permits.

Date of Government Version: 06/11/2013
Date Data Arrived at EDR: 06/12/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 42

Source: Department of Environmental Quality
Telephone: 804-698-4077
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

AIRS: Permitted Airs Facility List
A listing of permitted Airs facilities.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 09/17/2013
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 804-698-4000
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

TIER 2: Tier 2 Information Listing
A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 12/21/2012
Date Made Active in Reports: 02/19/2013
Number of Days to Update: 60

Source: Department of Environmental Quality
Telephone: 804-698-4159
Last EDR Contact: 06/20/2013
Next Scheduled EDR Contact: 10/07/2013
Data Release Frequency: Annually

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/01/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/02/2013
Next Scheduled EDR Contact: 11/11/2013
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites
A listing of facilities with coal ash impoundments.

Date of Government Version: 07/29/2009
Date Data Arrived at EDR: 07/31/2009
Date Made Active in Reports: 08/21/2009
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: 804-698-4285
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: N/A

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
A listing of financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/08/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/23/2013
Number of Days to Update: 75

Source: Department of Environmental Quality
Telephone: 804-698-4205
Last EDR Contact: 08/01/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/03/2013
Next Scheduled EDR Contact: 10/21/2013
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information listing

Solid waste financial assurance information.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 49

Source: Department of Environmental Quality
Telephone: 804-698-4123
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/04/2013
Date Data Arrived at EDR: 03/15/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/23/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/03/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 06/25/2013
Next Scheduled EDR Contact: 10/14/2013
Data Release Frequency: Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/20/2013
Date Data Arrived at EDR: 05/21/2013
Date Made Active in Reports: 06/27/2013
Number of Days to Update: 37

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/19/2013
Next Scheduled EDR Contact: 10/28/2013
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 09/10/2013
Number of Days to Update: 34

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/18/2013
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/18/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 09/27/2012
Number of Days to Update: 70

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 804-692-1900

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

RIVANNA STATION
N/A
CHARLOTTESVILLE, VA 22911

TARGET PROPERTY COORDINATES

Latitude (North):	38.1539 - 38˚ 9' 14.04''
Longitude (West):	78.4112 - 78˚ 24' 40.32''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	726838.1
UTM Y (Meters):	4225852.0
Elevation:	465 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	38078-B4 EARLYSVILLE, VA
Most Recent Revision:	1984

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

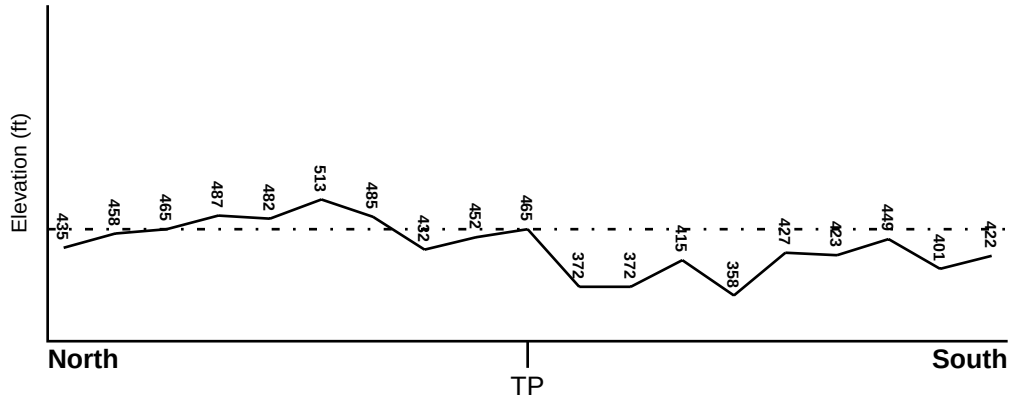
TOPOGRAPHIC INFORMATION

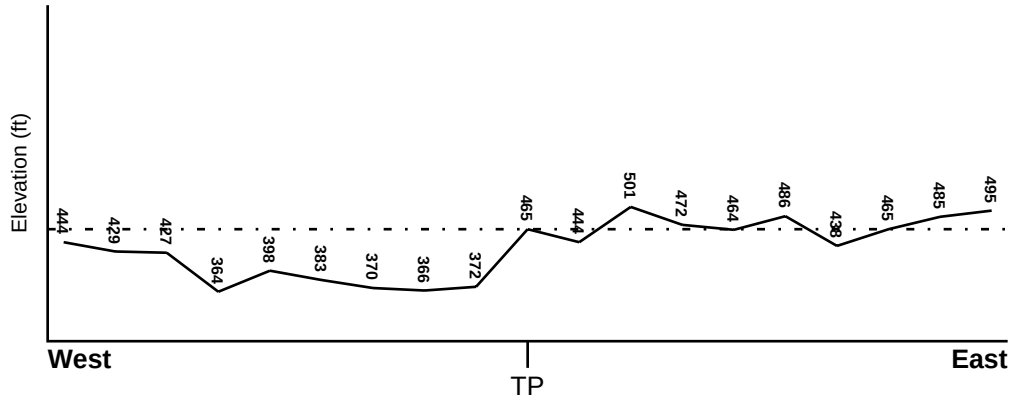
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 465 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
ALBEMARLE, VA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 51003C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
EARLYSVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

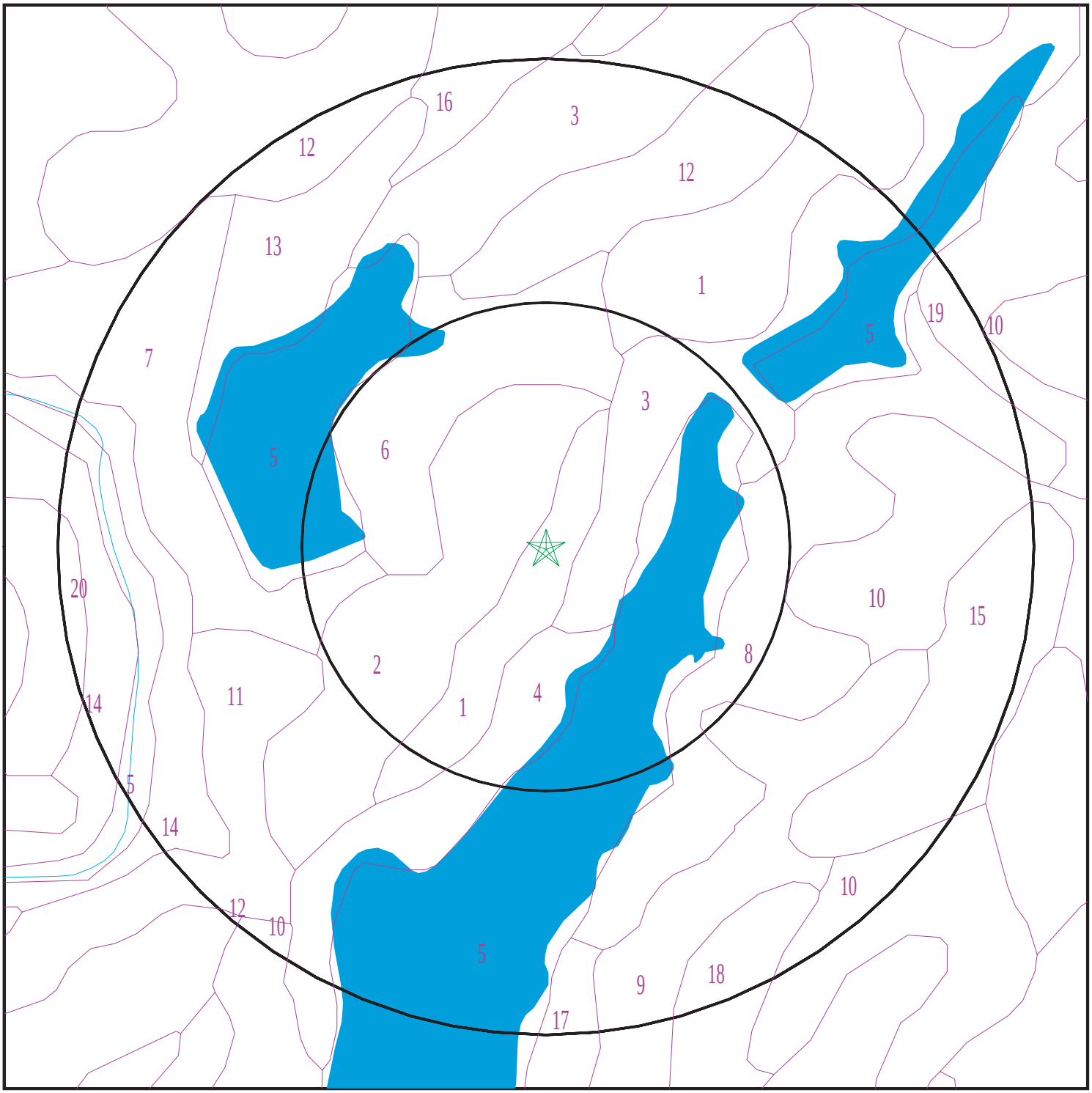
Era:	Precambrian
System:	Precambrian
Series:	Z Sedimentary rocks
Code:	Z *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3729346.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville VA 22911 LAT/LONG: 38.1539 / 78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY #: 3729346.2s DATE: September 17, 2013 9:43 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Catoctin

Soil Surface Texture: very channery silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 71 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	5 inches	18 inches	very channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 42 Min: 0	Max: Min:
2	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 42 Min: 0	Max: Min:
3	18 inches	27 inches	extremely channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 42 Min: 0	Max: Min:
4	27 inches	31 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 42 Min: 0	Max: Min:

Soil Map ID: 2

Soil Component Name: Albemarle

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
2	5 inches	29 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
3	29 inches	37 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
4	37 inches	50 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
5	50 inches	53 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 3

Soil Component Name: Catoctin

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 71 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		
1	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 0	Max: Min:
2	5 inches	18 inches	very channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 0	Max: Min:
3	18 inches	27 inches	extremely channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 0	Max: Min:
4	27 inches	31 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 0	Max: Min:

Soil Map ID: 4

Soil Component Name: Albemarle

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
2	5 inches	29 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
3	29 inches	37 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
4	37 inches	50 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
5	50 inches	53 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 5

Soil Component Name: Water

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 6

Soil Component Name: Albemarle

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	5 inches	29 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
3	29 inches	37 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
4	37 inches	50 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
5	50 inches	53 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 7

Soil Component Name: Louisburg

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 152 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 4.5
2	5 inches	59 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 4.5

Soil Map ID: 8

Soil Component Name: Hazel

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 76 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	9 inches	20 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
3	20 inches	29 inches	channery loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
4	29 inches	33 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 9

Soil Component Name: Fauquier

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 0	Max: Min:
2	5 inches	33 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 0	Max: Min:
3	33 inches	59 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 0	Max: Min:

Soil Map ID: 10

Soil Component Name: Elioak

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 4.5
2	7 inches	38 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 4.5
3	38 inches	72 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 4.5

Soil Map ID: 11

Soil Component Name: Manor

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 4	Max: 6 Min: 3.6
2	7 inches	18 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 4	Max: 6 Min: 3.6
3	18 inches	61 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 4	Max: 6 Min: 3.6

Soil Map ID: 12

Soil Component Name: Elioak

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 4.5
2	7 inches	38 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 4.5
3	38 inches	72 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 4.5

Soil Map ID: 13

Soil Component Name: Albemarle

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
2	5 inches	29 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
3	29 inches	37 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
4	37 inches	50 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
5	50 inches	53 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 14

Soil Component Name: Buncombe

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6.5 Min: 4.5
2	9 inches	42 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6.5 Min: 4.5
3	42 inches	63 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6.5 Min: 4.5

Soil Map ID: 15

Soil Component Name: Fluvanna

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 0.42	Max: 5.5 Min: 4.5
2	7 inches	48 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 0.42	Max: 5.5 Min: 4.5
3	48 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 0.42	Max: 5.5 Min: 4.5

Soil Map ID: 16

Soil Component Name: Albemarle

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 127 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
2	5 inches	29 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
3	29 inches	37 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
4	37 inches	50 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
5	50 inches	53 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 17

Soil Component Name: Hazel

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 76 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
2	9 inches	20 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
3	20 inches	29 inches	channery loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:
4	29 inches	33 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: Min:

Soil Map ID: 18

Soil Component Name: Fauquier

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 0	Max: Min:
2	5 inches	33 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 0	Max: Min:
3	33 inches	59 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 0	Max: Min:

Soil Map ID: 19

Soil Component Name: Glenelg

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	7 inches	27 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5
3	27 inches	79 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5

Soil Map ID: 20

Soil Component Name: Hiwassee

Soil Surface Texture: clay

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	7 inches	63 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	0 inches	7 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 4.5

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	VA2003525	1/2 - 1 Mile WNW

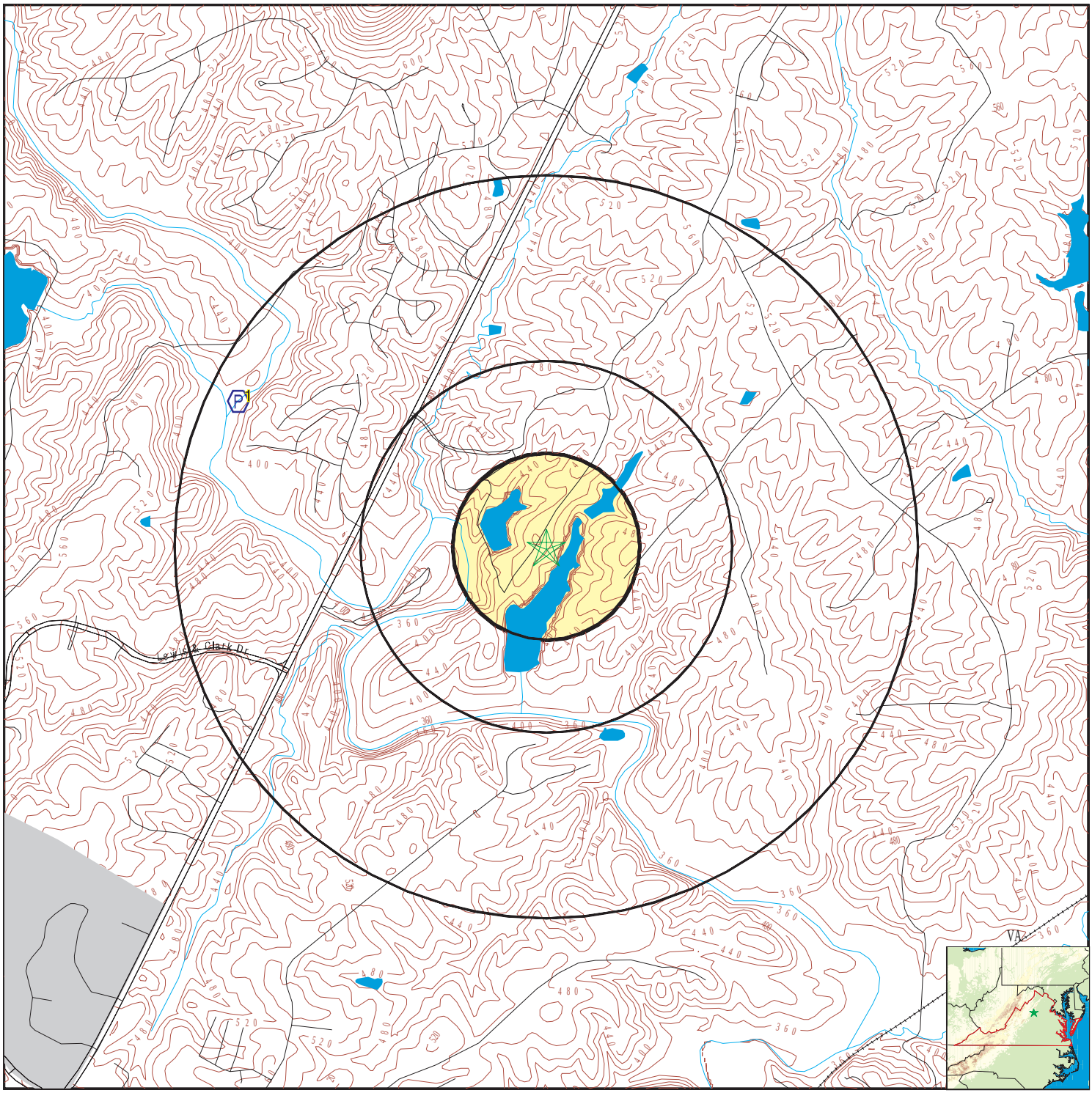
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 3729346.2s



County Boundary
Major Roads
Contour Lines
Airports
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data

N

SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville VA 22911 LAT/LONG: 38.1539 / 78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY #: 3729346.2s DATE: September 17, 2013 9:43 am

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Map ID Direction Distance Elevation		Database	EDR ID Number
1 **WNW** **1/2 - 1 Mile** **Lower**		**FRDS PWS**	**VA2003525**

Pwsid:	VA2003525	Epa region:	03
State:	VA	County:	Albemarle
Pws name:	NORTH RIVANNA WTP		
Population Served:	25	Pwssvcconn:	1
PWS Source:	Surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Local_Govt
Facility id:	19461		
Facility name:	WATER TREATMENT PLANT (EP)		
Facility type:	Sampling_station	Treatment process:	gaseous chlorination, post
Treatment objective:	disinfection		
Contact name:	WICHSER, ROBERT C.		
Original name:	WICHSER, ROBERT C.		
Contact phone:	434-977-2970	Contact address1:	695 Moores Creek Lane
Contact address2:	Not Reported		
Contact city:	CHARLOTTESVILLE		
Contact zip:	22902		
Facility id:	24922		
Facility name:	NORTH FORK RIVANNA RIVER		
Facility type:	Intake	Treatment process:	gaseous chlorination, post
Treatment objective:	disinfection		
Facility id:	4793		
Facility name:	WATER TREATMENT PLANT		
Facility type:	Treatment_plant	Treatment process:	gaseous chlorination, post
Treatment objective:	disinfection		
Facility id:	6679		
Facility name:	DISTRIBUTION SYSTEM		
Facility type:	Distribution_system_zone	Treatment process:	gaseous chlorination, post
Treatment objective:	disinfection		
Facility id:	19461		
Facility name:	WATER TREATMENT PLANT (EP)		
Facility type:	Sampling_station	Treatment process:	filtration, rapid sand
Treatment objective:	particulate removal		
Facility id:	24922		
Facility name:	NORTH FORK RIVANNA RIVER		
Facility type:	Intake	Treatment process:	filtration, rapid sand
Treatment objective:	particulate removal		
Facility id:	4793		
Facility name:	WATER TREATMENT PLANT		
Facility type:	Treatment_plant	Treatment process:	filtration, rapid sand
Treatment objective:	particulate removal		

Facility id: 6679
Facility name: DISTRIBUTION SYSTEM
Facility type: Distribution_system_zone Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 19461
Facility name: WATER TREATMENT PLANT (EP)
Facility type: Sampling_station Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 24922
Facility name: NORTH FORK RIVANNA RIVER
Facility type: Intake Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 4793
Facility name: WATER TREATMENT PLANT
Facility type: Treatment_plant Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 6679
Facility name: DISTRIBUTION SYSTEM
Facility type: Distribution_system_zone Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 19461
Facility name: WATER TREATMENT PLANT (EP)
Facility type: Sampling_station Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 24922
Facility name: NORTH FORK RIVANNA RIVER
Facility type: Intake Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 4793
Facility name: WATER TREATMENT PLANT
Facility type: Treatment_plant Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 6679
Facility name: DISTRIBUTION SYSTEM
Facility type: Distribution_system_zone Treatment process: filtration, rapid sand
Treatment objective: particulate removal

Facility id: 19461
Facility name: WATER TREATMENT PLANT (EP)
Facility type: Sampling_station Treatment process: sedimentation
Treatment objective: particulate removal

Facility id: 24922
Facility name: NORTH FORK RIVANNA RIVER
Facility type: Intake Treatment process: sedimentation
Treatment objective: particulate removal

Facility id:	4793		
Facility name:	WATER TREATMENT PLANT		
Facility type:	Treatment_plant	Treatment process:	sedimentation
Treatment objective:	particulate removal		

Facility id:	6679		
Facility name:	DISTRIBUTION SYSTEM		
Facility type:	Distribution_system_zone	Treatment process:	sedimentation
Treatment objective:	particulate removal		

Facility id:	19461		
Facility name:	WATER TREATMENT PLANT (EP)		
Facility type:	Sampling_station	Treatment process:	fluoridation
Treatment objective:	other		

Facility id:	24922		
Facility name:	NORTH FORK RIVANNA RIVER		
Facility type:	Intake	Treatment process:	fluoridation
Treatment objective:	other		

Facility id:	19461		
Facility name:	WATER TREATMENT PLANT (EP)		
Facility type:	Sampling_station	Treatment process:	ph adjustment, post
Treatment objective:	corrosion control		

Facility id:	24922		
Facility name:	NORTH FORK RIVANNA RIVER		
Facility type:	Intake	Treatment process:	ph adjustment, post
Treatment objective:	corrosion control		

Facility id:	4793		
Facility name:	WATER TREATMENT PLANT		
Facility type:	Treatment_plant	Treatment process:	ph adjustment, post
Treatment objective:	corrosion control		

Facility id:	6679		
Facility name:	DISTRIBUTION SYSTEM		
Facility type:	Distribution_system_zone	Treatment process:	ph adjustment, post
Treatment objective:	corrosion control		

Facility id:	19461		
Facility name:	WATER TREATMENT PLANT (EP)		
Facility type:	Sampling_station	Treatment process:	coagulation
Treatment objective:	particulate removal		

Facility id:	24922		
Facility name:	NORTH FORK RIVANNA RIVER		
Facility type:	Intake	Treatment process:	coagulation
Treatment objective:	particulate removal		

Facility id:	4793		
Facility name:	WATER TREATMENT PLANT		
Facility type:	Treatment_plant	Treatment process:	coagulation
Treatment objective:	particulate removal		

Facility id: 6679
Facility name: DISTRIBUTION SYSTEM
Facility type: Distribution_system_zone Treatment process: coagulation
Treatment objective: particulate removal

Facility id: 19461
Facility name: WATER TREATMENT PLANT (EP)
Facility type: Sampling_station Treatment process: gaseous chlorination, pre
Treatment objective: disinfection

Facility id: 24922
Facility name: NORTH FORK RIVANNA RIVER
Facility type: Intake Treatment process: gaseous chlorination, pre
Treatment objective: disinfection

Facility id: 4793
Facility name: WATER TREATMENT PLANT
Facility type: Treatment_plant Treatment process: gaseous chlorination, pre
Treatment objective: disinfection

Facility id: 6679
Facility name: DISTRIBUTION SYSTEM
Facility type: Distribution_system_zone Treatment process: gaseous chlorination, pre
Treatment objective: disinfection

Facility id: 4793
Facility name: WATER TREATMENT PLANT
Facility type: Treatment_plant Treatment process: fluoridation
Treatment objective: other

Facility id: 6679
Facility name: DISTRIBUTION SYSTEM
Facility type: Distribution_system_zone Treatment process: fluoridation
Treatment objective: other

PWS ID: VA2003525
Date Initiated: Not Reported Date Deactivated: Not Reported
PWS Name: NORTH RIVANNA WTP C/O RWSA
PO BOX 18 MOORES CK TREAT PLAN
FRANKLIN ST CHARLOTTESVILLE, VA 22902

Addressee / Facility: System Owner/Responsible Party
RIVANNA WATER & SEWER AUTH
P O BOX 18
CHARLOTTESVILLE, VA 22902

Facility Latitude: 38 9 34.0000 Facility Longitude: 78 25 36.0000
City Served: ALBEMARLE
Treatment Class: Treated Population: 25

Violations information not reported.

ENFORCEMENT INFORMATION:

Truedate: 03/31/2009 Pwsid: VA2003525
Pwsname: NORTH RIVANNA WTP
Retpopsrvd: 25 Pwstypecod: C
Vioid: 2237003 Contaminant: 0300
Viol. Type: Treatment Technique Exceeds Turb 1 NTU
Complperbe: 5/1/2003 0:00:00
Complperen: 5/31/2003 0:00:00 Enfdate: 5/27/2003 0:00:00
Enf action: State Public Notif Received
Violmeasur: Not Reported

Truedate:	03/31/2009	Pwsid:	VA2003525
Pwsname:	NORTH RIVANNA WTP		
Retpopsrvd:	25	Pwstypecod:	C
Vioid:	2237003	Contaminant:	0300
Viol. Type:	Treatment Technique Exceeds Turb 1 NTU		
Complperbe:	5/1/2003 0:00:00		
Complperen:	5/31/2003 0:00:00	Enfdate:	5/7/2003 0:00:00
Enf action:	State Compliance Achieved		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	VA2003525
Pwsname:	NORTH RIVANNA WTP		
Retpopsrvd:	25	Pwstypecod:	C
Vioid:	2237003	Contaminant:	0300
Viol. Type:	Treatment Technique Exceeds Turb 1 NTU		
Complperbe:	5/1/2003 0:00:00		
Complperen:	5/31/2003 0:00:00	Enfdate:	5/6/2003 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	VA2003525
Pwsname:	NORTH RIVANNA WTP		
Retpopsrvd:	25	Pwstypecod:	C
Vioid:	2237003	Contaminant:	0300
Viol. Type:	Treatment Technique Exceeds Turb 1 NTU		
Complperbe:	5/1/2003 0:00:00		
Complperen:	5/31/2003 0:00:00	Enfdate:	5/6/2003 0:00:00
Enf action:	State Formal NOV Issued		
Violmeasur:	Not Reported		

System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/27/2003 0:00:00	Enf. Action:	State Public Notif Received

System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/6/2003 0:00:00	Enf. Action:	State Formal NOV Issued

System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/6/2003 0:00:00	Enf. Action:	State Public Notif Requested

System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/7/2003 0:00:00	Enf. Action:	State Compliance Achieved

ENFORCEMENT INFORMATION:

System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/27/2003 0:00:00	Enf. Action:	State Public Notif Received
System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/6/2003 0:00:00	Enf. Action:	State Formal NOV Issued
System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/6/2003 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	NORTH RIVANNA WTP		
Violation Type:	Treatment Technique Exceeds Turb 1 NTU		
Contaminant:	0300		
Compliance Period:	5/1/2003 0:00:00 - 5/31/2003 0:00:00		
Violation ID:	2237003		
Enforcement Date:	5/7/2003 0:00:00	Enf. Action:	State Compliance Achieved

CONTACT INFORMATION:

Name:	NORTH RIVANNA WTP	Population:	25
Contact:	WICHSER, ROBERT C.	Phone:	Not Reported
Address:	695 Moores Creek Lane		
Address 2:	CHARLOTTESVILLE VA, 22 434-9		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for ALBEMARLE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ALBEMARLE COUNTY, VA

Number of sites tested: 8

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	6.212 pCi/L	62%	25%	12%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Virginia Public Water Supplies
Source: Department of Health, Office of Water Programs
Telephone: 804-786-1756

OTHER STATE DATABASE INFORMATION

Virginia Oil and Gas Wells
Source: Department of Mines, Minerals and Energy
Telephone: 804-692-3200
A listing of oil and gas well locations

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

EPA Region 3 Statistical Summary Readings
Source: Region 3 EPA
Telephone: 215-814-2082
Radon readings for Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

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Mid-Atlantic Corrective Action

GE Intelligent Platforms (Formerly GE Fanuc Automation)

On This Page

- Status
- Background
- Contaminants and Risks
- Institutional Controls
- Documents and Reports
- Photos, Maps and Diagrams
- Reuse Information
- Questions

Interactive Google Site Map EXIT Disclaimer

EPA ID: VAD980551782
Location:
2500 Austin Dr.
Charlottesville, VA 22911
Property Area 74 acres
Congressional District: 5th
Other Names:GE Fanuc Automation
FINAL UPDATE

You will need the free Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

Contacts

EPA Project Manager
Ms. Jeanna Henry
U.S. Environmental Protection Agency Region 3
1650 Arch Street MS 3LC20
Philadelphia, PA 19103-2029
Phone: (215) 814-2820
Email: henry.jeannar@epa.gov

Virginia Department of Environmental Quality
Mr. Durwood Willis
DEQ Office of Remediation Programs
Phone: ((804) 698-4192
629 East Main Street
Richmond VA 23219
Email: durwood.willis@deq.virginia.gov

Bulletin Board

•

Site Status

- Cleanup Status: Complete Without Controls
- Human Exposure Controlled: YES
- Groundwater Controlled : YES

Related Links

- Envirofacts Link for this Site
- Tell us how to better

Status

- Lead Agreement (FLA) program. The FLA was developed by

EPA to address RCRA corrective action facilities and encourage such facilities to take the lead in addressing corrective action using a generic, non-enforceable, agreement which includes the same requirements, and relies on the same scope of work and policy as a permit or an order. EPA and EPA's contractors conducted a Facility information gathering site visit on September 12, 2007. In January 2010, under EPA direction, the Facility conducted an investigation to assess groundwater quality in the vicinity of the former Wastewater Treatment (IWT) Tank #1, which has been identified as Solid Waste Management Unit (SWMU) No. 7, and the former wastewater drain field at SWMU No. 18. No contamination was found.

engage with your community.

- On July 15, 2010, EPA proposed a determination of "Corrective Action Complete without Controls" based on EPA's findings which are detailed in the Statement of Basis. Consistent with public participation provisions under the Resource Conservation and Recovery Act (RCRA), EPA requested comments from the public on the proposed remedy as described in the Statement of Basis. The commencement of a thirty (30) day public comment period was announced in the Daily Progress newspaper on July 15, 2010 and on the EPA Region III website. The public comment period ended on August 13, 2010. EPA received no comments on the proposal. Consequently, the Final Decision – Corrective Action Complete without Controls was issued by EPA on August 23, 2010.

Background

- GE Intelligent Platforms (formerly GE Fanuc Automation) is headquartered in Charlottesville, Virginia and is an industrial control manufacturer. The plant consists of three units: Embedded Systems, Software and Services and Control Systems. The Facility is located on 74-acres and manufactures printed circuit boards and uses a number of chemicals that become listed hazardous wastes in the waste stream. Twenty-four (24) SWMUs and two (2) Areas of Concern (AOC) have been identified at the Facility. EPA has determined that all of the SWMUs and AOC have been removed and/or closed (under VA Department of Environmental Quality (DEQ) oversight) and pose no environmental concerns to human health or the environment.

Contaminants and Risks

-

Documents and Reports

- Some of the site's key documents of interest are accessible below:

- Environmental Indicator Determination - Human Exposures [PDF, 8 pages, 26 KB, About PDF]
- Environmental Indicator Determination - Groundwater Migration [PDF, 10 pages, 139 KB, About PDF]
- Corrective Action Statement of Basis [PDF, 11 pages, 76 KB, About PDF]

- All documents and reports regarding this facility also can be reviewed in person at these locations:

  U.S. EPA Region III
  Land & Chemicals Division - RCRA
  1650 Arch Street-11th Floor
  Philadelphia, PA 19103
  (215) 814-2820
  Call for an appointment.

- Submit a FOIA Request
  Get instructions on how to submit a FOIA request. Additional fee for requests over 100 pages.

Photos, Maps and Diagrams

GE Intelligent Platforms

Click on a thumbnail to enlarge the photo)

Reuse Information

- The facility is under continued use.

Questions

- The EPA is dedicated to providing you with timely and accurate information about our work at this site. If you have any questions or concerns, please contact the EPA Project Manager: Jeanna Henry (215) 814-2820.

Rivanna Station
N/A
Charlottesville, VA 22911

Inquiry Number: 3729346.3
September 17, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/17/13

Site Name:
Rivanna Station
N/A
Charlottesville, VA 22911

EDR Inquiry # 3729346.3

Client Name:
Williamsburg Env. Group, Inc.
1011 Boulder Springs Dr Suite
Richmond, VA 23225-0000

Contact: Tibby Lawrence

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Williamsburg Env. Group, Inc. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Rivanna Station
Address: N/A
City, State, Zip: Charlottesville, VA 22911
Cross Street:
P.O. # 5052
Project: Rivanna Station Phase I ESA
Certification # 6D35-49D4-8790

Sanborn® Library search results
Certification # 6D35-49D4-8790

UNMAPPED PROPERTY

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- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Rivanna Station
N/A
Charlottesville, VA 22911

Inquiry Number: 3729346.6
September 30, 2013

The EDR-City Directory Image Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2013	☑	☑	Polk's City Directory
2008	☐	☑	Polk's City Directory
2003	☐	☑	Polk's City Directory
1998	☐	☐	Polk's City Directory
1993	☐	☐	Polk's City Directory
1988	☐	☐	Polk's City Directory
1983	☐	☐	Polk's City Directory
1978	☐	☐	Hill's City Directory
1973	☐	☐	Hill's City Directory
1969	☐	☐	Hill's City Directory
1964	☐	☐	Hill's City Directory

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FINDINGS

TARGET PROPERTY STREET

N/A
Charlottesville, VA 22911

Year	*CD Image*	*Source*	
Defense Way			
2013	pg A1	Polk's City Directory	
2008	-	Polk's City Directory	Street not listed in Source
2003	-	Polk's City Directory	Street not listed in Source
1998	-	Polk's City Directory	Street not listed in Source
1993	-	Polk's City Directory	Street not listed in Source
1988	-	Polk's City Directory	Street not listed in Source
1983	-	Polk's City Directory	Street not listed in Source
1978	-	Hill's City Directory	Street not listed in Source
1973	-	Hill's City Directory	Street not listed in Source
1969	-	Hill's City Directory	Street not listed in Source
1964	-	Hill's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
Boulders Road			
2013	pg. A2	Polk's City Directory	
2008	pg. A3	Polk's City Directory	
2003	pg. A4	Polk's City Directory	
1998	-	Polk's City Directory	Street not listed in Source
1993	-	Polk's City Directory	Street not listed in Source
1988	-	Polk's City Directory	Street not listed in Source
1983	-	Polk's City Directory	Street not listed in Source
1978	-	Hill's City Directory	Street not listed in Source
1973	-	Hill's City Directory	Street not listed in Source
1969	-	Hill's City Directory	Street not listed in Source
1964	-	Hill's City Directory	Street not listed in Source

City Directory Images

Target Street	Cross Street	Source
✓	-	Polk's City Directory

Defense Way 2013

DEFENSE HWY (CHARLOTTESVILLE)
• ZIP CODE 22911 CAR-RT R008
2460 FIRST RUN CATERING caterers ✓ 434-995-2247
Wallech Preston W ✓ 3
Wallech Pattama
WORLDWIDE INFORMATION NETWORK info & referral serv ✓
@ 434-973-0395
BUSINESSES 2 HOUSEHOLDS 1

Target Street	Cross Street	Source
-	✓	Polk's City Directory

Boulders Road 2013

BOULDERS RD (CHARLOTTESVILLE)

BOURNE FARM (CROZET)-FROM 4547 CLARK RD NORTHEAST

BOURNE FARM RD (CROZET)

Target Street	Cross Street	Source
-	✓	Polk's City Directory

Boulders Road 2008

BOULDERS RD (CHARLOTTESVILLE)-FROM 4859 WATTS PASSAGE
• ZIP CODE 22911 CAR-RT R008
2055 US ARMY FOREIGN SCIENCE federal government
.....434-980-7000
BUSINESSES 1

Target Street	Cross Street	Source
-	✓	Polk's City Directory

Boulders Road 2003

BOULDERS RD (CHARLOTTESVILLE)-FROM
4859 WATTS PSGE
• ZIP CODE 22911 CAR-RT R008
2055 Ⓦ Stewart Ezekiel
HOUSEHOLDS 1

Rivanna Station
N/A
Charlottesville, VA, 22911

Inquiry Number: 3742163.2
October 25, 2013

The EDR Chain of Title Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Chain of Title Report

The EDR Chain of TitleReport tracks a line of successive owners from the present back to 1940 of a particular parcel of property, linked together by recorded transactions which pass title. Available nationwide, this report provides a summary of a property's ownership history and is a valuable source for determining the prior uses of a property.

A network of professional, abstractors following established procedures, use client supplied address information to locate:

- Historical Chain of Title;
- Leases and Miscellaneous

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EDR Chain of Title Report

TARGET PROPERTY INFORMATION

ADDRESS

Rivanna Station

N/A

Charlottesville, VA, 22911

RESEARCH SOURCE

Source 1:	Albemarle County Assessor
Source 2:	Albemarle County Circuit Court Clerk
Examiner's Notes:	Public records of Albemarle County were searched from January 1, 1940 to September 29, 2013, and no other deeds vesting title in the subject proprty were found of record during the period searched.

HISTORICAL CHAIN OF TITLE

Current Owner:	Next Generation, LLC
Legal Description:	See attached deed
Property Identifiers:	03300-00-00-01500

HISTORICAL CHAIN OF TITLE

See Exhibit 'A'.

LEASES AND MISCELLANEOUS

See Exhibit 'B'.

Chain of Title

Exhibit "A"

EDR Chain of Title Report

HISTORICAL CHAIN OF TITLE

PARCEL NO. 03300-00-00-01500

Chain 1

Type of deed:	Deed
Title received from:	George E. Walker, Trustee
Title is vested in:	John West
Deed recorded:	11/27/1911
Instrument:	Book 147, Page 432
Comments:	John West died, leaving the subject property to Septimia W. Butcher

Type of deed:	Deed
Title received from:	Septimia W. Butcher, widow
Title is vested in:	William C. Smith
Deed recorded:	02/26/1959
Instrument:	Book 346, Page 509
Comments:	

Type of deed:	Deed
Title received from:	William C. Smith and Mary L. Smith
Title is vested in:	Simco, Inc.
Deed recorded:	12/22/1964
Instrument:	Book 403, Page 547
Comments:	

Type of deed:	Deed
Title received from:	Simco, Inc.
Title is vested in:	Rivanna Estates, LP
Deed recorded:	02/15/1968
Instrument:	Book 439, Page 594
Comments:	

Type of deed:	Deed
Title received from:	Rivanna Estates, LP
Title is vested in:	River Heights Associates, LP
Deed recorded:	09/24/1991
Instrument:	Book 1178, Page 525
Comments:	

Type of deed:	Deed
Title received from:	River Heights Associates, LP
Title is vested in:	Next Generation, LLC
Deed recorded:	05/02/1996
Instrument:	Book 1534, Page 611
Comments:	

LEASES AND MISCELLANEOUS

Exhibit "B"

EDR Chain of Title Report

LEASES and MISCELLANEOUS

1. Type of Instrument:
   First Party:
   Second Party:
   Recorded:
   Book:
   Page:
   Document No:

2. Type of Instrument:
   First Party:
   Second Party:
   Recorded:
   Book:
   Page:
   Document No:

BK 1534 PG 0611 004360

THIS DEED made and entered into this 2nd day of May, 1996, by and between RIVER HEIGHTS ASSOCIATES LIMITED PARTNERSHIP, a Connecticut limited partnership, and M. CLIFTON McCLURE and ROBERT M. CALLAGHAN, Trustees under agreement dated October 2, 1992, the Grantors, and NEXT GENERATION, L.L.C., the Grantee, whose address is P. O. Box 5548, Charlottesville, Virginia 22905, and WENDELL W. WOOD, Second Grantor,

W I T N E S S E T H:

FOR VALUABLE CONSIDERATION, the receipt of which is hereby acknowledged, River Heights Associates Limited Partnership and Wendell W. Wood, beneficial owner of said land trust, do hereby GRANT, BARGAIN, SELL and CONVEY with GENERAL WARRANTY and ENGLISH COVENANTS OF TITLE, and M. Clifton McClure and Robert M. Callaghan, Trustees under agreement dated October 2, 1992, do hereby GRANT, BARGAIN, SELL and CONVEY with SPECIAL WARRANTY OF TITLE unto Next Generation, L.L.C, the following described property:

SEE SCHEDULES A and B ATTACHED HERETO.

This conveyance is subject to all easements, reservations, restrictions, conditions and other encumbrances contained in duly recorded deeds, plats and other instruments constituting constructive notice in the chain of title to the above-described property which have not expired by a time limitation contained therein or have not otherwise become ineffective.

THIS DEED IS EXEMPT FROM RECORDATION TAX PURSUANT TO CODE OF VIRGINIA SECTION 58.1-811(A.10).

BK 1534 PG 0612

WITNESS the following signatures and seals:

RIVER HEIGHTS ASSOCIATES LIMITED PARTNERSHIP

By _____
General Partner

M. Clifton McClure, Trustee (SEAL)
M. Clifton McClure, Trustee

Robert M. Callaghan, Trustee (SEAL)
Robert M. Callaghan, Trustee

_____ (SEAL)
Wendell W. Wood

STATE OF VIRGINIA AT LARGE
CITY/~~COUNTY~~ OF CHARLOTTESVILLE, to-wit:

The foregoing Deed was acknowledged before me by WENDELL W. WOOD, in his own right and as General Partner of River Heights Associates Limited Partnership this 3rd day of May, 1996.

My commission expires: June 30, 1999.

_____
Notary Public

STATE OF VIRGINIA AT LARGE
CITY/~~COUNTY~~ OF CHARLOTTESVILLE, to-wit:

The foregoing Deed was acknowledged before me by M. CLIFTON McCLURE and ROBERT M. CALLAGHAN, Trustees under agreement dated October 2, 1992, this 3rd day of May, 1996.

My commission expires: June 30, 1999.

_____
Notary Public

SCHEDULE "A"

All those certain tracts or parcels of land situated in the Rivanna Magisterial District of Albemarle County, Virginia, on the easterly side of U.S. Route 29 north of Charlottesville more particularly described as follows:

PARCEL A: The following described tracts containing in the aggregate 383 acres, more or less, to-wit:

Tract Number One: All that certain tract or parcel of land, containing 97 acres, more or less, situated in the north fork of the Rivanna River, in said district and county, shown on Tax Map Sheet 33, Parcel 15, and being the remainder of a tract of 143-1/4 acres, more or less, described by metes and bounds on plat of record in the Clerk's Office of the Circuit Court of Albemarle County, Virginia, in Deed Book 75, page 97, after the conveyance off of 46-3/4 acres, more or less, described by metes and bounds on plat of record in said Clerk's Office in Deed Book 156, page 292.

Tract Number Two: All that certain tract or parcel of land containing 12.589 acres, more or less, in said district and county, further described by metes and bounds on a plat prepared by William S. Roudabush, Jr. and Associates, dated April 1959, of record in said Clerk's Office in Deed Book 348, page 394, and shown on Tax Map Sheet 33, Parcel 1B.

Tract Number Three: All that certain tract or parcel of land containing 153.8 acres, more or less, in said district and county, further described by metes and bounds on a plat prepared by A. R. Sweet & Associates, dated October 9, 1946, of record in said Clerk's Office in Deed Book 322, page 186, and shown on Tax Map Sheet 33, Parcel 13.

Tract Number Four: All that certain tract or parcel of land, containing 21.17 acres, more or less, in said district and county, further described by metes and bounds on a plat prepared by William S. Roudabush, Jr. and Associates, dated September 26, 1960, of record in said Clerk's Office in Deed Book 362, page 451, and shown on Tax Map Sheet 33, Parcel 1F.

Tract Number Five: All that certain tract or parcel of land containing 62-3/4 acres, more or less, situated on the north fork of Rivanna River, about one and one-half miles from Gilbert, and shown on Tax Map Sheet 33, Parcel 14, and further described by metes and bounds on a plat of record in said Clerk's Office in Deed Book 114, page 108, subject to reservation of a cemetery located as set forth in deed from George Gilmer, Commissioner to Obie D. Pritchett, dated April 8, 1955, of record in said Clerk's Office in Deed Book 315, page 534.

Tract Number Six: All that certain tract or parcel of land

containing 35.9 acres, more or less, shown on Tax Map Sheet 32, Parcel 5C, and more particularly described by metes and bounds on a plat prepared by B. Aubrey Huffman & Associates, dated January 15, 1968, captioned "Plat Showing 35.9 Acres Situated on the East Side of U.S. Route 29 North of the North Fork of the Rivanna River, being a Portion of the Land Owned by Simco, Incorporated", attached and made a part of deed recorded in Deed Book 439, page 594.

PARCEL B: All that certain tract or parcel of land, containing 30.5 acres, more or less, with improvements thereon and all rights, privileges and appurtenances thereunto belonging or in any wise appertaining, situated near State Route 600 in the Rivanna Magisterial District of Albemarle County, Virginia, shown on Tax Map Sheet 33, Parcel 1, and further described by metes and bounds on a plat prepared by B. Aubrey Huffman & Associates, dated May 15, 1972, attached to and made a part of Hall deed referred to below, TOGETHER WITH right of way over entrance road from said property to State Route 600 shown on said plat, designated thereon as "R/W to Route 600".

PARCEL C: All those certain tracts or parcels of land, with all improvements thereon and appurtenances thereto, situated eight miles north of Charlottesville on U.S. Route 29 in Albemarle County, Virginia, as shown on Tax Map Sheet 33, Parcel 1D, and more particularly described in the aggregate to contain 117.90 acres (including Parcels X and Y) on the plat of Huffman-Foster and Associates dated October 30, 1970, attached to and recorded with deed of Mark W. Perry and wife, dated November 3, 1970, of record in Deed Book 479, page 61, conveying said property to Rivanna Estates Limited Partnership, a Virginia limited partnership. Reference is here made to the aforesaid deed and plat for a more particular description of the property conveyed herein, which is subject to a right-of-way granted to Virginia Telephone and Telegraph Company by instrument of record in the aforesaid Clerk's Office in Deed Book 351, page 300, as shown on said plat, and includes as an appurtenance the right-of-way described therein.

PARCEL D: All that certain tract or parcel of land, containing 8.3 acres, more or less, situated on the east side of U.S. Route 29, north of the City of Charlottesville, in Albemarle County, Virginia, shown on Tax Map Sheet 32, Parcel 5 and designated as Parcel C on a plat prepared by Huffman-Foster and Associates, dated October 17, 1969, captioned "Plat Showing Parcel 'A', Parcel 'B' and Parcel 'C' Situated on the East Side of U.S. Route 29 North of the North Fork of the Rivanna River, being the Land Owned by Simco, Incorporated", of record in the Clerk's Office of the Circuit Court of Albemarle County, Virginia, in Deed Book 465, page 585.

PARCEL E: All those two contiguous tracts of land aggregating 199-3/4 acres, more or less, as follows:

Tract Number One: A tract of land containing 28-1/4 acres, more or less, situated near Gilberts Station, in Albemarle County,

Virginia, shown on Tax Map Sheet 33, Parcel 36A, being the identical land conveyed to A. Bellfield Pritchett by John M. Maury and Henry B. Gordon, Special Commissioners, by deed dated October 12, 1937, of record in said Clerk's Office in Deed Book 237, page 235.

Tract Number Two: A tract of land, containing 171-1/2 acres, more or less, situated in Albemarle County, Virginia, shown on Tax Map Sheet 33, Parcel 36, acquired by A. Bellfield Pritchett by the following deeds: Deed from Mrs. N.C. Garrison to Annie E. Dickerson, Sarah E. Pritchett, Julia M. Pritchett, Mary M. Pritchett, J. Everett Pritchett and A. Bellfield Pritchett, dated September 22, 1900, of record in said Clerk's Office in Deed Book 125, page 344; deed from Annie E. Dickerson and C. Earnest Dickerson, her husband, to A. Bellfield Pritchett, dated September 25, 1901, of record in said Clerk's Office in Deed Book 121, page 39; deed from Thomas G. Douglass, Executor of Nancy C. Garrison, deceased, and as Commissioner of the Circuit Court of Albemarle County, to J. Everett Pritchett and Bellfield A. Pritchett, dated February 23, 1903, of record in said Clerk's Office in Deed Book 125, page 342; deed from J.E. Pritchett, unmarried, to A. Bellfield Pritchett, dated June 30, 1908, of record in said Clerk's Office in Deed Book 137, page 442.

The said A. Bellfield Pritchett died intestate in Albemarle County, Virginia, on March 13, 1965, while seised and possessed of the aforesaid real estate, leaving surviving the following names five nieces and nephews, his sole surviving heirs at law, to whom said real estate descended, namely: Romeo Sexton Dickerson, Edward L. Dickerson, Pauline D. Buffalari, Irene D. Clark and Birkfield Dickerson, and the interest of Rivanna Estates Limited Partnership therein was conveyed to it by deed of Birkfield Dickerson, single, dated June 28, 1968, of record in Deed Book 450, page 213, and deed of Pauline D. Buffalari, divorced, dated July 1, 1968, of record in Deed Book 450, page 218, and deed of W. A. Pace and wife, dated December 30, 1974, of record in Deed Book 567, page 318.

PARCEL F: All that certain tract or parcel of land situated on the North Fork of the Rivanna River in Albemarle County, Virginia, shown on Tax Map Sheet 33, Parcel 16, containing 46-3/4 acres, more or less, and more particularly described on a plat prepared by J.C. Mann, Surveyor, of record in said County Clerk's Office in Deed Book 156, page 292, and being the same land as was conveyed to Rivanna Estates Limited Partnership, a Virginia limited partnership, by deed of Simco, Inc., dated July 1, 968, of record in said Clerk's Office in Deed Book 445, page 376.

PARCEL G: All that certain tract or parcel of land shown on Tax Map Sheet 21, Parcel 14C, containing 32.84 acres more or less, fronting on the east side of U.S. Route 29, north of the Rivanna River, in Albemarle County, Virginia, and more particularly described on a plat prepared by William S. Roudabush, Jr., C.L.S., as Lots 1 through 7, inclusive, of record in said County Clerk's Office in Deed Book 379, page 274, LESS AND EXCEPT that parcel of

land conveyed to the Commonwealth of Virginia for the widening of U.S. Route 29, by deed of record in said Clerk's Office in Deed Book 396, page 577, and shown on plat in Highway Plat Book 3, page 86, and being the same land as was conveyed to Rivanna Estates Limited Partnership, a Virginia limited partnership, by deed of Scamran Realty Corp., dated March 1, 1977, of record in said Clerk's Office in Deed Book 624, page 589.

PARCEL H: All those two contiguous tracts of land aggregating 84.91 acres, more or less, as follows:

Tract Number One: All that certain tract or parcel of land, containing 84.76 acres, more or less, situated in the Rivanna Magisterial District of Albemarle County, Virginia, near Watt's Crossing, and more particularly described as Tract 'A' on a plat of Blue & Finley, Civil Engineers and Land Surveyors, dated October 26, 1965, of record in the Clerk's Office of the Circuit Court of Albemarle County, Virginia, in Deed Book 413, page 153.

Tract Number Two: All that certain tract or parcel of land, containing 0.15 acres, situated in the Rivanna Magisterial District of Albemarle County, Virginia, near Watt's Crossing, fronting on State Route 600, and more particularly described as Tract 'B' on the aforesaid plat of Blue & Finley, of record in the aforesaid Clerk's Office in Deed Book 413, page 153.

The property hereby conveyed carries as an appurtenance a non-exclusive right of way for ingress and egress over a 20 ft. private roadway to State Route 600 and is subject to the terms of a maintenance agreement for this 20 ft. private roadway, both the right of way and maintenance agreement being more particularly described in a deed from Tom Pritchett and Alice F. Pritchett, his wife, dated November 16, 1965, and recorded in the aforesaid Clerk's Office in Deed Book 413, page 151. The property hereby conveyed also carries as an appurtenance a non-exclusive right of way for ingress and egress over another 20 foot private roadway to State Route 600, as more particularly described in a deed from J. F. McDaniel and Minnie Ola McDaniel, his wife, dated November 16, 1965, and recorded in the aforesaid Clerk's Office in Deed Book 413, page 155.

The above Parcels A-H were conveyed to River Heights Associates Limited Partnership by deed of Rivanna Estates Limited Partnership dated August 13, 1991 and recorded in the aforesaid Clerk's Office in Deed Book 1178, page 525.

PARCEL I: All that certain tract or parcel of land with improvements thereon and the appurtenances thereunto belonging, located on U.S. Route 29 about 0.6 miles south of State Route 600 in Albemarle County, Virginia, containing 31.21 acres, more or less, being more particularly shown and described on a plat made by R.O. Snow, Inc., C.L.S., dated August 24, 1987 and recorded in the Clerk's Office of the Circuit Court of Albemarle County, Virginia, in Deed Book 985, page 288; being the same land conveyed

to River Heights Associates Limited Partnership by deed of Russell L. Harlow and Mary S. Harlow, husband wife, dated October 30, 1991 and recorded in the aforesaid Clerk's Office in Deed Book 1185, page 727.

SAVE AND EXCEPT, however, 28.88 acres, being portions of Parcel A, Tract Number Five; Parcel A, Tract Number 6 and Parcel D described above, the boundaries of which are shown on the attached sketch labelled Schedule C. This tract shall be surveyed and the boundaries confirmed by River Heights Associates Limited Partnership and the Grantee.

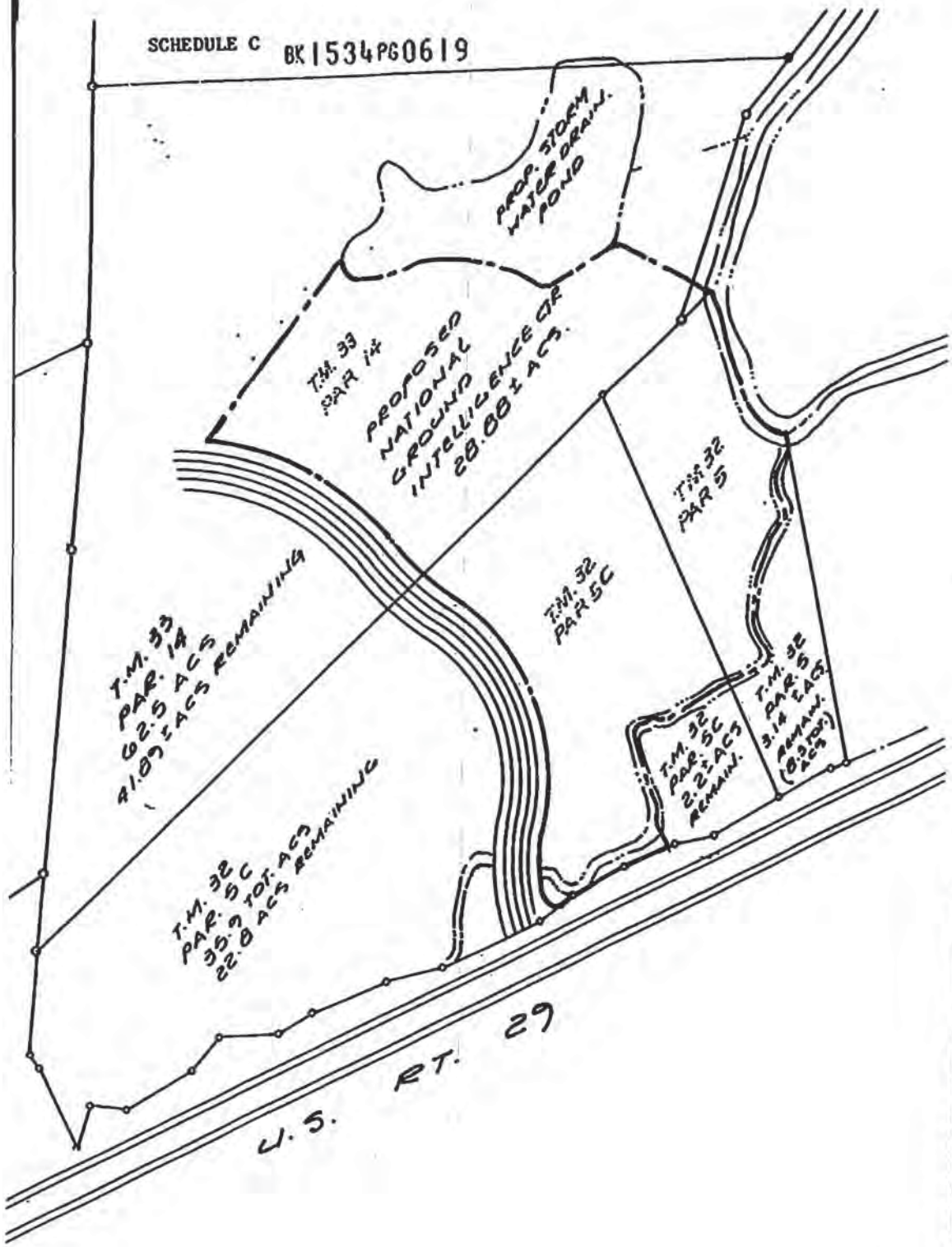
SCHEDULE B

Parcel A: All that certain parcel or tract of land situated in the Rivanna Magisterial District of Albemarle County, Virginia, on State Route 600, containing 61.295 acres, more or less, on a plat by William P. Gimbel, L.S., dated June 22, 1990, last revised June 27, 1990 and recorded in the Clerk's Office of the Circuit Court of Albemarle County, Virginia, in Deed Book 1184, pages 186 and 187; being the land conveyed to Fred S. Landess and Steve W. Blaine, Trustees under an agreement dated October 2, 1992 by deed of James T. Clifton and Joann F. Clifton, husband and wife, dated September 2, 1992 and recorded in the aforesaid Clerk's Office in Deed Book 1258, page 81. By instrument dated November 2, 1992 and recorded in the aforesaid Clerk's Office in Deed Book 1267, page 383, M. Clifton McClure and Robert M. Callaghan replaced Fred S. Landess and Steve W. Blaine as Trustees.

Parcel B: All that certain lot or parcel of land with improvements thereon and appurtenances thereto belonging situated in Albemarle County, Virginia, containing 20 acres, more or less, as described in a deed from Leslie M. Cason to Dorothy Elizabeth Cason, dated August 11, 1993, and recorded in the Clerk's Office of the Circuit Court of Albemarle County, Virginia, in Deed Book 1350, page 333, LESS AND EXCEPT that certain tract or parcel of land containing 2.00 acres shown on a plat prepared by B. Aubrey Huffman and Associates, Ltd., dated December 8, 1993, as the "Residue Parcel" which plat is attached to the deed of Dorothy Elizabeth Cason to M. Clifton McClure and Robert M. Callaghan, Trustees under agreement dated October 2, 1992, which deed is dated March 14, 1994 and recorded in the aforesaid Clerk's Office in Deed Book 1390, page 1.

Parcel C: All that certain tract or parcel of land situated in the Rivanna Magisterial District of Albemarle County, Virginia and designated as Lot 3 shown as containing 30.63 acres on a plat of Thomas P. Gale, C.L.S., dated November 24, 1989 and recorded in the Clerk's Office of the Circuit Court of Albemarle County, Virginia, in Deed Book 1108, page 693; being the same property conveyed to M. Clifton McClure and Robert M. Callaghan, Trustees under a trust dated October 2, 1992 by deed of Mae B. Taylor, et al, dated June 14, 1994 and recorded in the aforesaid Clerk's Office in Deed Book 1413, page 582.

SCHEDULE C BK1534PG0619



BK 1534 PG 0620

VIRGINIA: IN THE CLERK'S OFFICE OF THE CIRCUIT COURT OF ALBEMARLE:

THIS DEED WAS PRESENTED, AND WITH CERTIFICATE ANNEXED, IS ADMITTED TO RECORD ON May 3, 1996, AT 1:11 O'CLOCK P M.

STATE TAX	$	(039)
LOCAL TAX	$	(213)
TRANSFER FEE	$ 1.00	(212)
VSLF	$ 1.00	(145)
CLERK'S FEE	$ 17.00	(301)
PLAT	$	
SEC.58.1-802:		
STATE TAX	$	(038)
LOCAL TAX	$	(220)
LOCAL TAX	$	(223)
TOTAL	$ 19.00	

TESTE:
SHELBY J.MARSHALL, CLERK
BY: Karen P Shifflett
DEPUTY CLERK

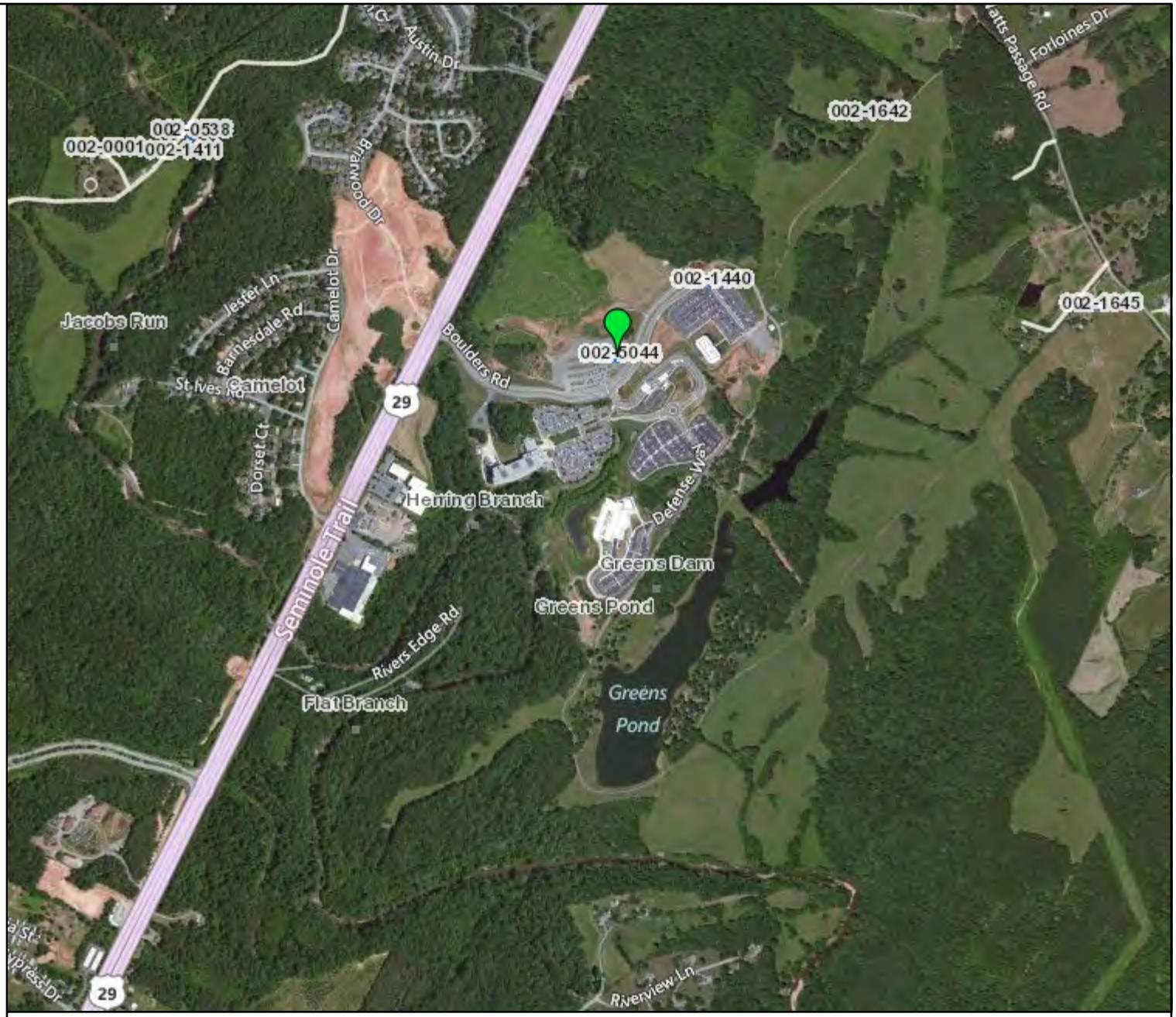
Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Labels
- Architecture Points
- USGS GIS Place names
- County Boundaries



N

Feet

0 500 1000 1500 2000

1:18,058 / 1" = 1,505 Feet

Title: Rivanna Station **Date: 11/1/2013**

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Dhr ID	Property Names	Proprty Addresses	Architecture Style	Construction Year	ArchitecturePropertySurveyID
002-5044	Cemetery, Seminole Trail (Function/Location), Pritchett Family Cemetery (Historic)	Seminole Trail	No Discernable Style	1913	242452

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APPENDIX E

EDR Provided Historical Topographic Maps and Aerial Photographs

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Rivanna Station
N/A
Charlottesville, VA 22911

Inquiry Number: 3729346.4
September 17, 2013

EDR Historical Topographic Map Report

Environmental Data Resources Inc
440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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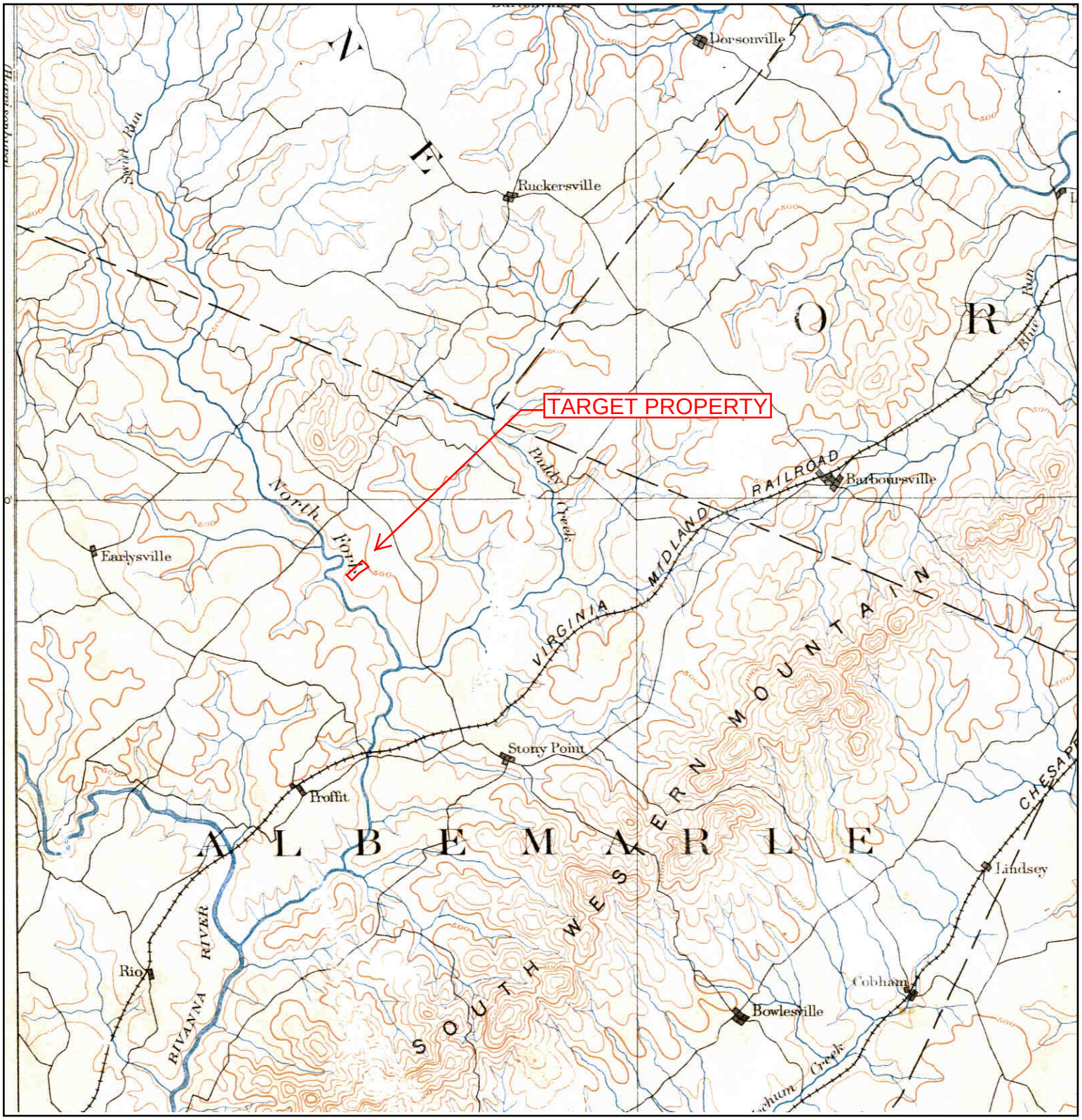
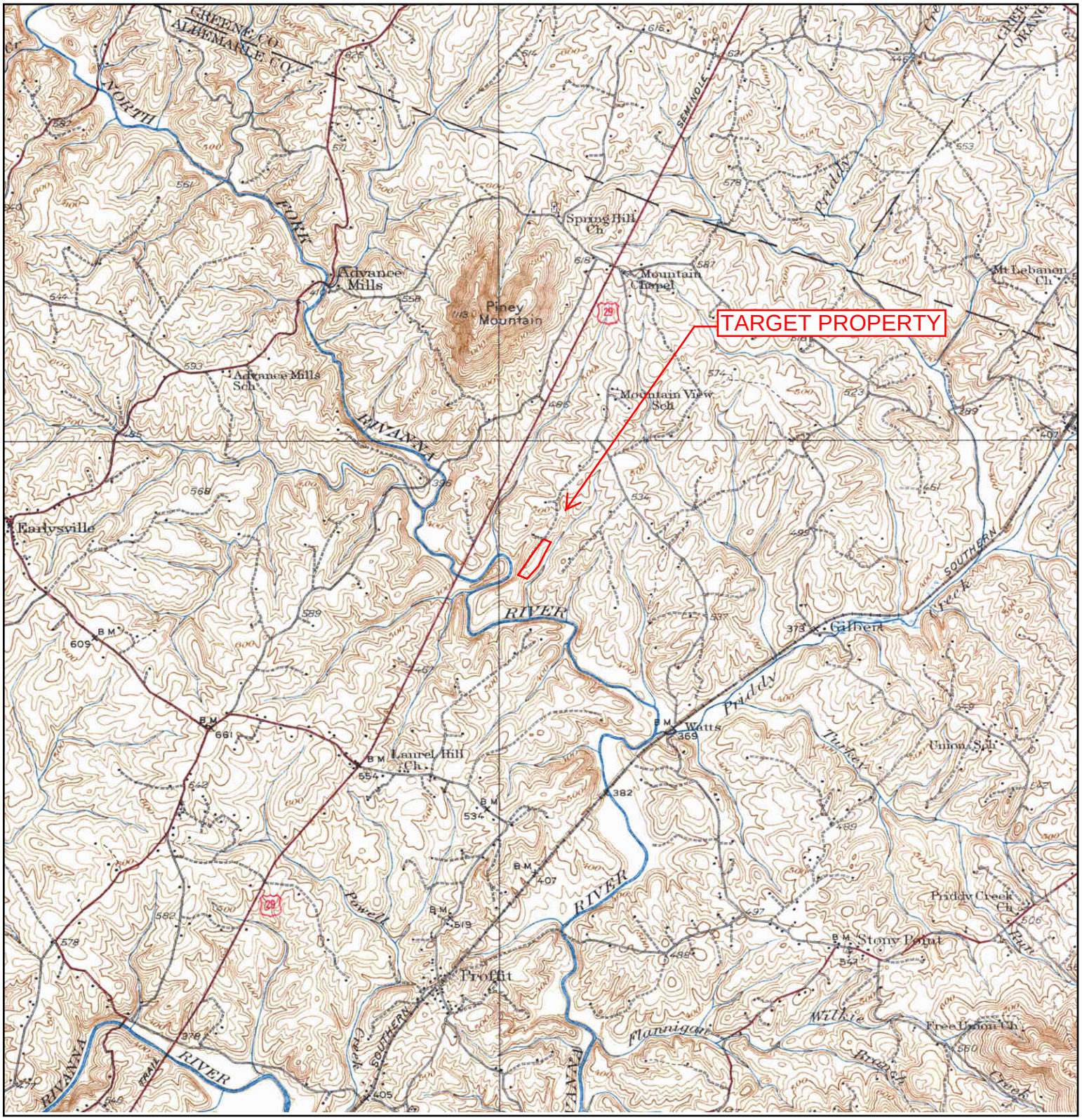
Historical Topographic Map



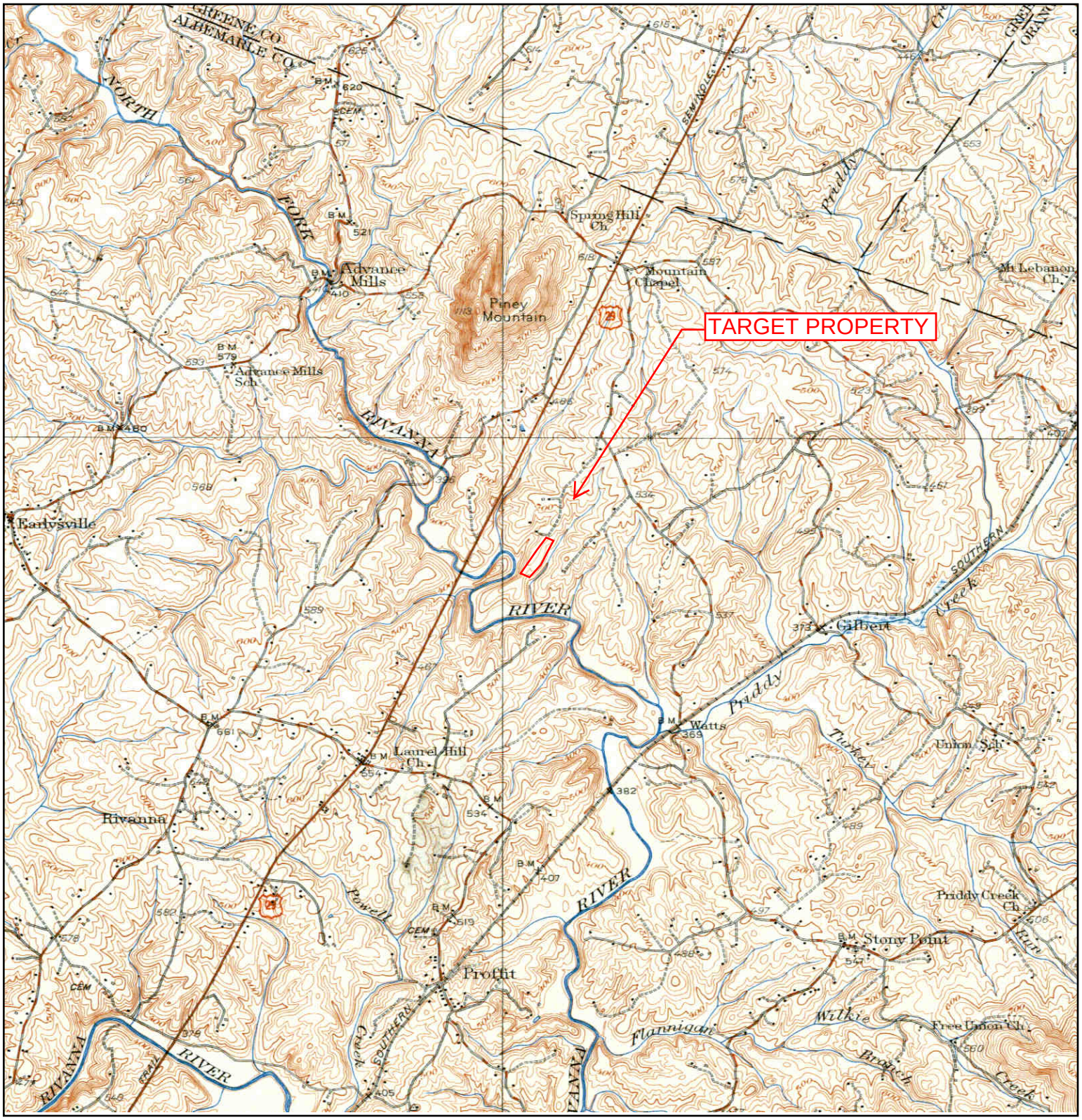
N	TARGET QUAD NAME: GORDONSVILLE MAP YEAR: 1892 SERIES: 30 SCALE: 1:125000	SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville, VA 22911 LAT/LONG: 38.1539 / -78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY#: 3729346.4 RESEARCH DATE: 09/17/2013

Historical Topographic Map



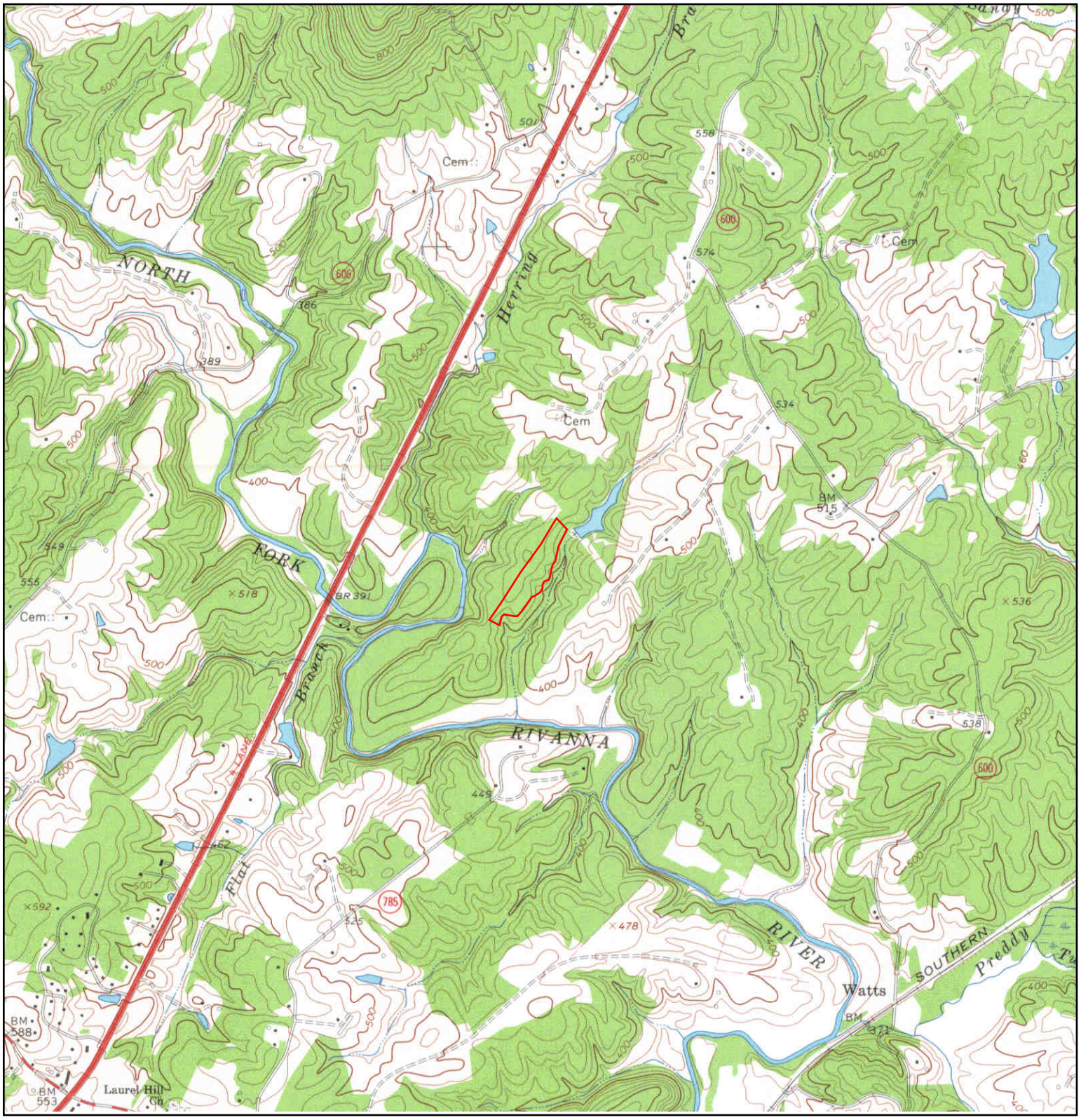
N	TARGET QUAD NAME: CHARLOTTESVILLE MAP YEAR: 1939 SERIES: 15 SCALE: 1:62500	SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville, VA 22911 LAT/LONG: 38.1539 / -78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY#: 3729346.4 RESEARCH DATE: 09/17/2013

Historical Topographic Map



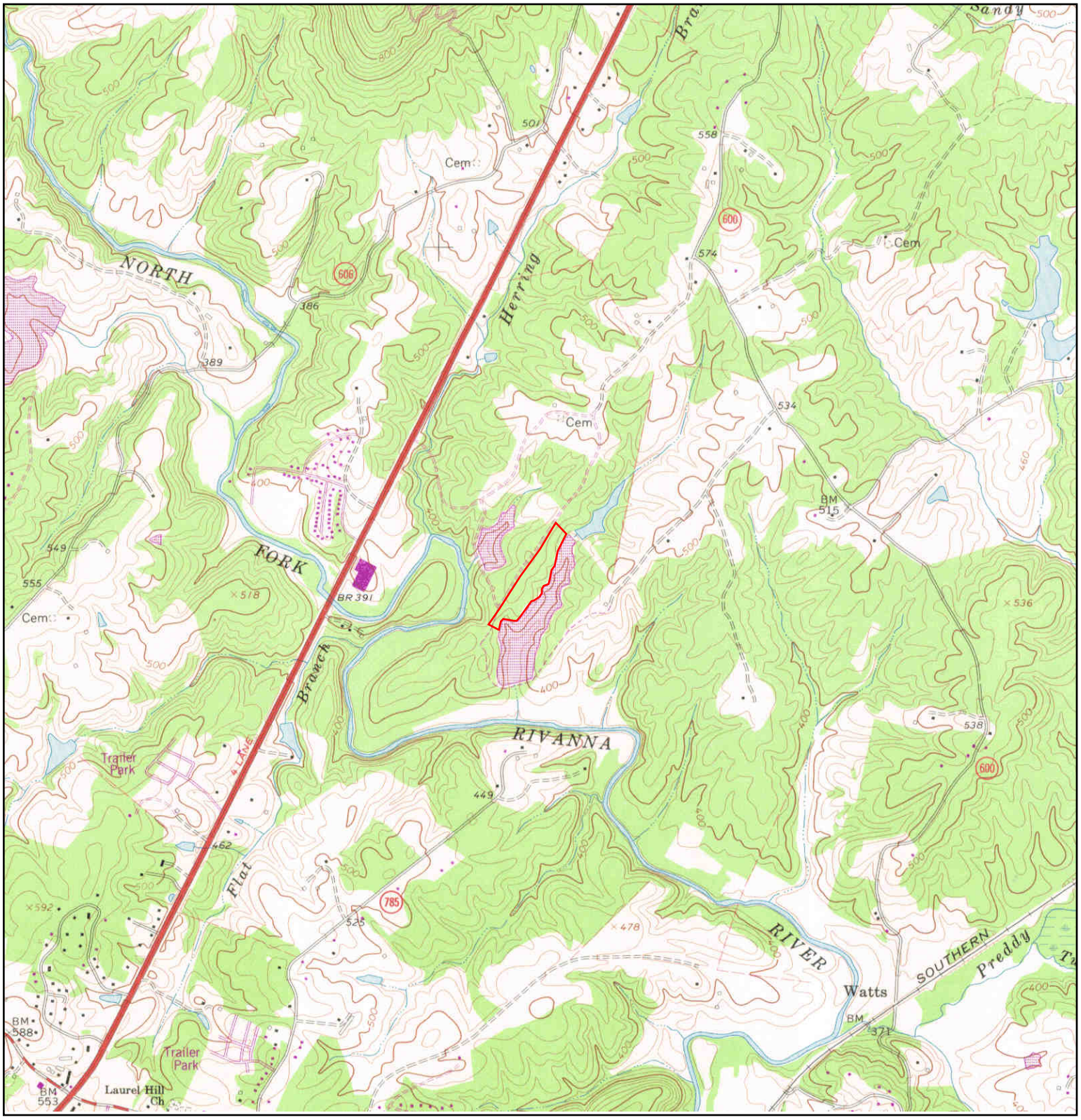
N	TARGET QUAD NAME: CHARLOTTESVILLE MAP YEAR: 1950 CORRECTED FROM :1939 SERIES: 15 SCALE: 1:62500	SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville, VA 22911 LAT/LONG: 38.1539 / -78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY#: 3729346.4 RESEARCH DATE: 09/17/2013

Historical Topographic Map



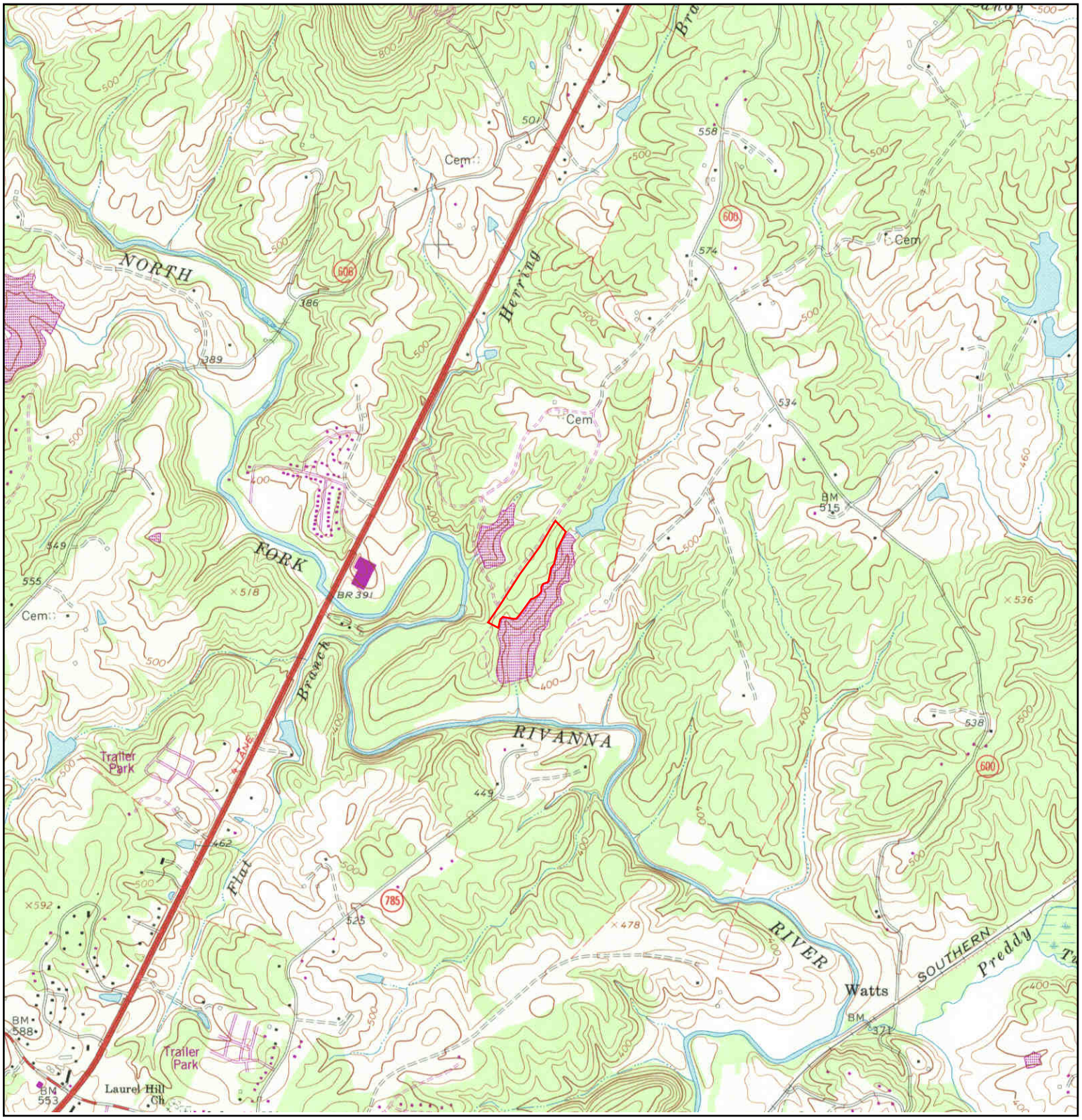
N	TARGET QUAD NAME: EARLYSVILLE MAP YEAR: 1965 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville, VA 22911 LAT/LONG: 38.1539 / -78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY#: 3729346.4 RESEARCH DATE: 09/17/2013

Historical Topographic Map



N	TARGET QUAD NAME: EARLYSVILLE MAP YEAR: 1978 PHOTOREVISED FROM :1965 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville, VA 22911 LAT/LONG: 38.1539 / -78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY#: 3729346.4 RESEARCH DATE: 09/17/2013

Historical Topographic Map



N	TARGET QUAD NAME: EARLYSVILLE MAP YEAR: 1984 PHOTOINSPECTED FROM : 1965 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Rivanna Station ADDRESS: N/A Charlottesville, VA 22911 LAT/LONG: 38.1539 / -78.4112	CLIENT: Williamsburg Env. Group, Inc. CONTACT: Tibby Lawrence INQUIRY#: 3729346.4 RESEARCH DATE: 09/17/2013

Rivanna Station
N/A
Charlottesville, VA 22911

Inquiry Number: 3729346.5
September 17, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography September 17, 2013

Target Property:

N/A

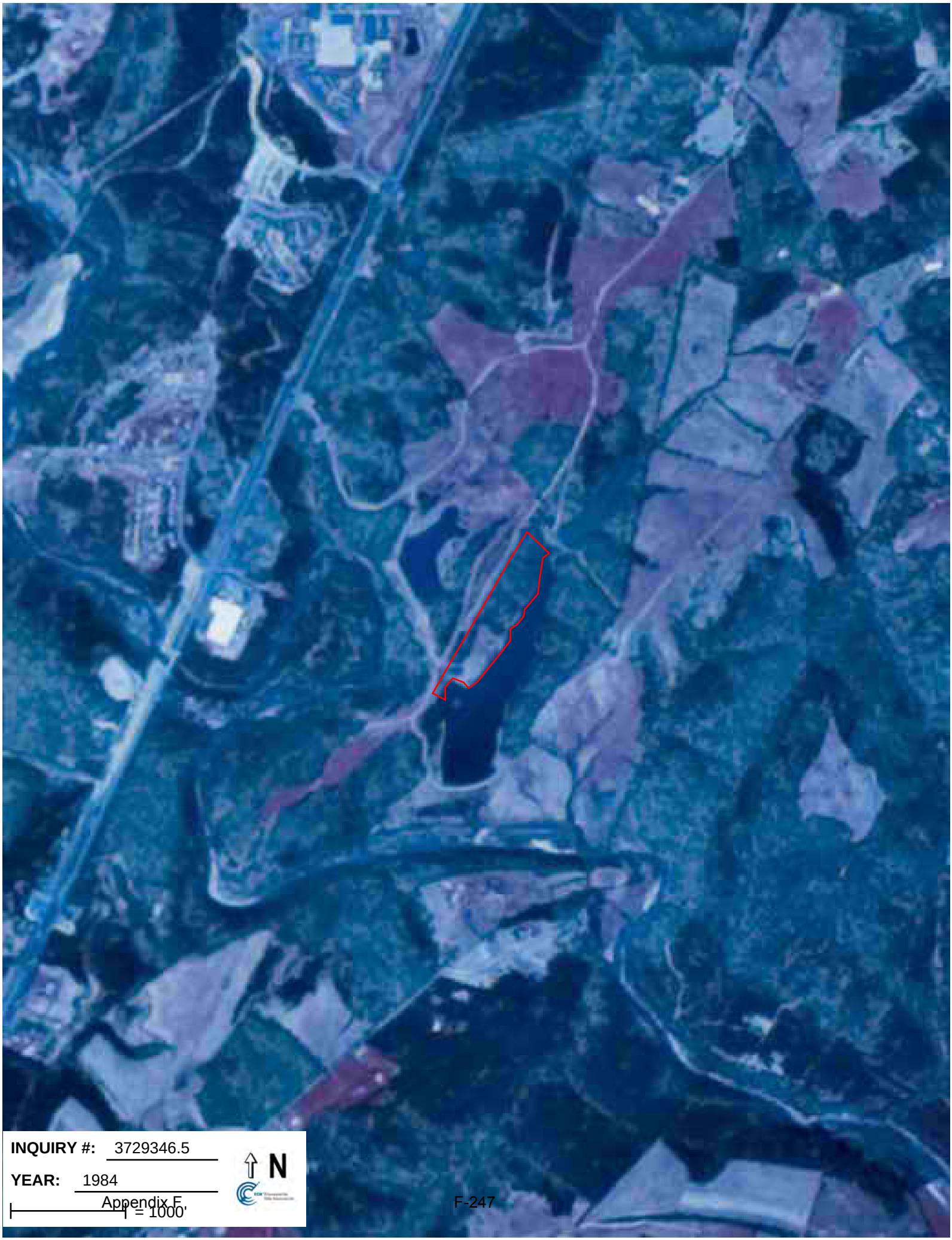
Charlottesville, VA 22911

Year	***Scale***	***Details***	***Source***
1960	Aerial Photograph. Scale: 1"=1000'	Panel #: 38078-B4, Earlysville, VA;/Flight Date: October 25, 1960	EDR
1963	Aerial Photograph. Scale: 1"=750'	Panel #: 38078-B4, Earlysville, VA;/Flight Date: March 24, 1963	EDR
1977	Aerial Photograph. Scale: 1"=1000'	Panel #: 38078-B4, Earlysville, VA;/Flight Date: March 09, 1977	EDR
1984	Aerial Photograph. Scale: 1"=1000'	Panel #: 38078-B4, Earlysville, VA;/Flight Date: April 12, 1984	EDR
1989	Aerial Photograph. Scale: 1"=1000'	Panel #: 38078-B4, Earlysville, VA;/Flight Date: April 17, 1989	EDR
1994	Aerial Photograph. Scale: 1"=500'	Panel #: 38078-B4, Earlysville, VA;/DOQQ - acquisition dates: April 02, 1994	EDR
2000	Aerial Photograph. Scale: 1"=750'	Panel #: 38078-B4, Earlysville, VA;/Flight Date: March 26, 2000	EDR
2005	Aerial Photograph. Scale: 1"=500'	Panel #: 38078-B4, Earlysville, VA;/Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Panel #: 38078-B4, Earlysville, VA;/Flight Year: 2006	EDR
2008	Aerial Photograph. Scale: 1"=500'	Panel #: 38078-B4, Earlysville, VA;/Flight Year: 2008	EDR
2009	Aerial Photograph. Scale: 1"=500'	Panel #: 38078-B4, Earlysville, VA;/Flight Year: 2009	EDR
2011	Aerial Photograph. Scale: 1"=500'	Panel #: 38078-B4, Earlysville, VA;/Flight Year: 2011	EDR
2012	Aerial Photograph. Scale: 1"=500'	Panel #: 38078-B4, Earlysville, VA;/Flight Year: 2012	EDR

INQUIRY #: 3729346.5
YEAR: 1960
= 1000'
N

INQUIRY #: 3729346.5
YEAR: 1963
= 750'
N

INQUIRY #: 3729346.5
YEAR: 1977
= 1000'
N


INQUIRY #: 3729346.5
YEAR: 1984
= 1000'
N

Appendix F

INQUIRY #: 3729346.5
YEAR: 1994
= 500'
N

INQUIRY #: 3729346.5
YEAR: 2000
= 750'
N

INQUIRY #: 3729346.5
YEAR: 2005
= 500'
N

INQUIRY #: 3729346.5
YEAR: 2006
= 500'
N

INQUIRY #: 3729346.5
YEAR: 2008
= 500'
N

INQUIRY #: 3729346.5
YEAR: 2009
= 500'
N

INQUIRY #: 3729346.5
YEAR: 2011
= 500'
N

INQUIRY #: 3729346.5
YEAR: 2012
= 500'
N

APPENDIX F

Site Reconnaissance Photographs

[This page is left intentionally blank]

Photo: #1

Orientation:
Northeast

Description:
Gravel entrance to Property; Property on right and Rivanna Station on left

Photographer:
Tibby J. Lawrence, WEG

Photo: #2

Orientation:
Northeast

Description:
Property along the gravel entrance access

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #3

Orientation:
Southwest

Description:
Gravel entrance to Property; Property on left and Rivanna Station parking lot on right

Photographer:
Tibby J. Lawrence, WEG

Photo: #4

Orientation:
Southeast

Description:
View of Property including a field and forested area with Greens Pond in background

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #5

Orientation:
South

Description:
Unidentified plastic box on-site

Photographer:
Tibby J. Lawrence, WEG

Photo: #6

Orientation:
N/A

Description:
Inside box described in Photo #5; appears to be a pump system

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #7

Orientation:
West

Description:
On-site bedrock in foreground and Rivanna Station parking area in background

Photographer:
Tibby J. Lawrence, WEG

Photo: #8

Orientation:
South

Description:
Open field on-site and Greens Pond in background

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #9

Orientation:
Southwest

Description:
Facing southern portion of the Property

Photographer:
Tibby J. Lawrence, WEG

Photo: #10

Orientation:
Southwest

Description:
Facing southern portion of the Property along gravel road shown in Photo #9 (on right).

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #11

Orientation:
Northwest

Description:
Southwest corner of Property; fence marking boundary of Rivanna Station property in back-ground

Photographer:
Tibby J. Lawrence, WEG

Photo: #12

Orientation:
Southwest

Description:
Off-site, just beyond southern property boundary

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #13

Orientation:
Northeast

Description:
Gravel access road at the southern end of the Property

Photographer:
Tibby J. Lawrence, WEG

Photo: #14

Orientation:
Southeast

Description:
From southern end of the Property, facing Greens Pond

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #15

Orientation:
Northeast

Description:
From southern end of the Property (slightly off-site), facing Greens Pond

Photographer:
Tibby J. Lawrence, WEG

Photo: #16

Orientation:
Southeast

Description:
From southern portion of the Property facing Greens Pond and opposite shore

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #17

Orientation:
Southeast

Description:
Greens Pond and opposite shore

Photographer:
Tibby J. Lawrence, WEG

Photo: #18

Orientation:
East

Description:
Greens Pond and opposite shore

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #19

Orientation:
East

Description:
Edge of Property along Greens Pond and view of opposite shore

Photographer:
Tibby J. Lawrence, WEG

Photo: #20

Orientation:
Northeast

Description:
Property's edge at Greens Pond

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #21

Orientation:
Northeast

Description:
On-site fencing along Greens Pond

Photographer:
Tibby J. Lawrence, WEG

Photo: #22

Orientation:
Southwest

Description:
Property boundary along Greens Pond

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #23

Orientation:
Southeast

Description:
Piece of bedrock and old lawn chair in open field behind fencing along Greens Pond

Photographer:
Tibby J. Lawrence, WEG

Photo: #24

Orientation:
North

Description:
Unimproved road leading to dam of Greens Pond; outlet pipe observed (center of photo)

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #25

Orientation:
South

Description:
Old outlet pipe observed onsite

Photographer:
Tibby J. Lawrence, WEG

Photo: #26

Orientation:
Southeast

Description:
Upper end of Greens Pond

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #27

Orientation:
South

Description:
From dam facing Greens Pond; Property on the right

Photographer:
Tibby J. Lawrence, WEG

Photo: #28

Orientation:
Northeast

Description:
North side/upper end of Greens Pond dam

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #29

Orientation:
Northwest

Description:
Forested area on-site

Photographer:
Tibby J. Lawrence, WEG

Photo: #30

Orientation:
Northwest

Description:
Forested area on-site, bedrock

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052

Photo: #31

Orientation:
Southeast

Description:
Approximate area where gravel access road runoff enters forested area; may connect to observed outlet pipe (Photo #25)

Photographer:
Tibby J. Lawrence, WEG

Photos taken by:
Williamsburg Environmental Group, Inc.
October 1, 2013
WEG Project # 5052