

Final Supplemental Environmental Assessment for the James J. Rowley Training Center Master Plan, 2017 Update

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JAMES J. ROWLEY TRAINING CENTER MASTER PLAN, 2017 UPDATE

FINAL SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Responsible Agency:

U.S. Secret Service

Abstract:

The U.S. Secret Service (USSS) has prepared this Final Supplemental Environmental Assessment (SEA) for the James J. Rowley Training Center (RTC) Master Plan 2017 Update, located in Prince George's County, Maryland. The project includes the construction of new facilities, the renovation of existing facilities, the consolidation of facilities into precincts, infrastructure expansion, and security upgrades. This SEA considers the environmental effects of implementing a No Action (No Build) Alternative and an Action Alternative.

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Introduction

The James J. Rowley Training Center (RTC), located in Prince George's County, Maryland, is owned and operated by the U.S. Department of Homeland Security/U.S. Secret Service (USSS). The mission of the RTC is to develop, administer, and coordinate all training programs related to the protective, investigative, and administrative activities of the agency. The USSS proposes to update the 2012 Master Plan for the RTC to allow for gradual expansion and program improvements over the next 10 to 15 years. The purpose of the *James J. Rowley Training Center Master Plan, 2017 Update* (2017 RTC Master Plan Update) is to propose engineering and architectural direction for the development of a world-class training campus for the USSS. The 2017 RTC Master Plan Update is needed in order to accommodate the renovation of existing structures and newly proposed specialized training facilities that would support the agency's current mission threat trends; the 2012 RTC Master Plan did not include these elements. Furthermore, the build-out of the 2017 RTC Master Plan Update is needed to support various training programs associated with the agency's role within DHS.

The objectives of the plan include the following:

- Utilize the campus more effectively and efficiently.
- Provide needed space for specialized programs, classrooms, and conference use.
- Provide a functional physical fitness facility.
- Accommodate external and inter-campus transportation.
- Differentiate secured areas from non-secured public areas to promote flexible use.
- Establish architectural design guidelines to achieve coherent architectural and environmental development campus-wide.
- Identify the initial projects to be developed under the Master Plan and plan for incremental development of the campus.
- Develop probable costs for phased development.
- Coordinate with regional review agencies including the National Capital Planning Commission (NCPC) and Maryland-National Capital Parks and Planning Commission (M-NCPPC).

The USSS has prepared this Final Supplemental Environmental Assessment (SEA) to determine the potential impacts that implementation of the 2017 RTC Master Plan Update would have on the natural and man-made environment. This SEA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the Council on Environmental Quality (CEQ) regulations implementing NEPA [40 CFR 1500-1508 (1986)], and the Department of Homeland Security's (DHS) Directive 023-01, Rev 1, Implementation of the National Environmental Policy Act and Instruction Manual 023-01-001-01 Rev 1 Implementation of the National Environmental Policy Act.

This SEA evaluates the potential environmental impacts of implementing the 2017 RTC Master Plan Update, as well as the impacts of a No Action Alternative. Potential environmental impacts are described for each of the alternatives, including short-term construction related impacts, long-term operational impacts, and cumulative impacts resulting from the implementation of the proposed action together with current or planned projects. The general study area in which impacts are analyzed includes the RTC property and the properties immediately surrounding the RTC, including the Beltsville Agricultural Research Center (BARC), the Patuxent Wildlife Research Center, the Baltimore-Washington Parkway (B-W Parkway), and the residential areas to the north of the property. The study area may contract for a specific resource if the potential for impacts is localized.

Project Location

The RTC is located on approximately 493 acres of federally-owned land in the northern portion of Prince George's County, Maryland. The site is approximately 2.5 miles north of the Capital Beltway, at the northeast corner of the intersection of the B-W Parkway (State Highway 295) and Powder Mill Road. The main access point to the RTC is located off Powder Mill Road, which connects with Laurel Bowie Road (Maryland Route 197) near the eastern edge of the property. The RTC is adjacent to the northern boundary of the BARC, operated by the U.S. Department of Agriculture (USDA). A portion of the Patuxent National Wildlife Research Center operated by the U.S. Geological Survey (USGS) is located northeast of the RTC. The regional location of the RTC is illustrated in Figure 1.

Purpose and Need for the Action

The purpose of the 2017 RTC Master Plan Update is to propose engineering and architectural direction for the development of a world-class training campus for the USSS. The 2017 RTC Master Plan Update is needed in order to accommodate the renovation of existing structures and newly proposed specialized training facilities that would support the agency's current mission threat trends; the 2012 RTC Master Plan did not include these elements. Furthermore, the build-out of the 2017 RTC Master Plan is needed to support various training programs associated with the agency's role within DHS. The 2017 RTC Master Plan Update would continue to guide the USSS as phased development progresses.

Identified planning objectives include the following:

- Utilize the campus more effectively and efficiently.
- Provide needed space for specialized programs, classrooms, and conference use.
- Provide a functional physical fitness facility.
- Accommodate external and inter-campus transportation.
- Differentiate secured areas from non-secured public areas to promote flexible use.
- Establish architectural design guidelines to achieve coherent architectural and environmental development campus-wide.

- Identify the initial projects to be developed under the Master Plan and plan for incremental development of the campus.
- Develop probable costs for phased development.
- Coordinate with regional review agencies including the National Capital Planning Commission (NCP) and Maryland-National Capital Parks and Planning Commission (M-NCPPC).

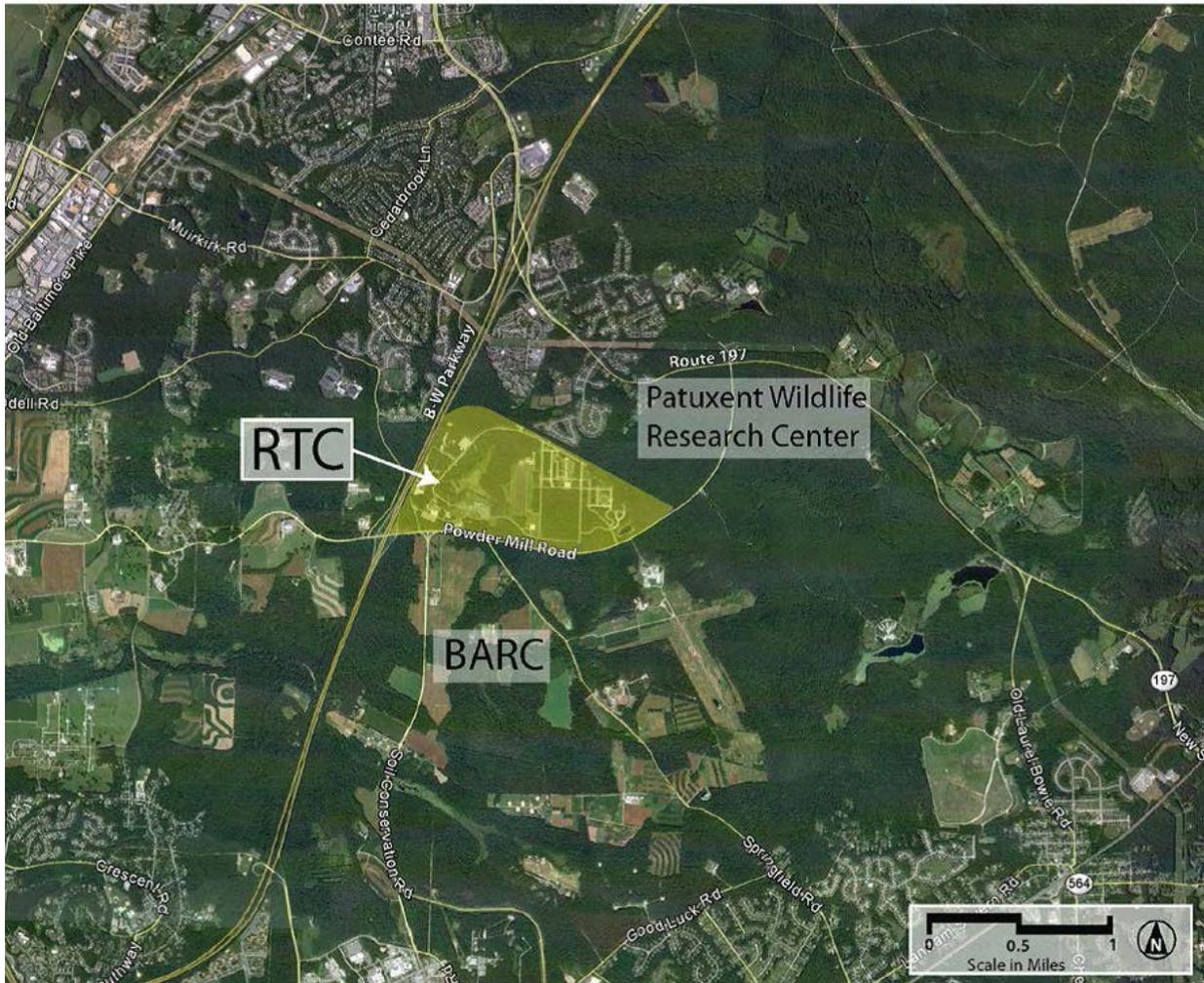


Figure 1: Project Location

Source: AECOM

Currently, RTC has 538 personnel on campus: 298 full-time equivalent (FTE) employees (including in-service instructors) and 240 basic training students. Under the 2017 RTC Master Plan Update, the projected RTC population would increase to 700 (460 FTE and 240 training students).

The 2017 RTC Master Plan Update includes the anticipated buildings and improvements that are required to meet the agency’s existing mission threat trends. Currently, some of the training programs are spread throughout the campus. The proposed improvements would better facilitate the mission’s educational programs and improve operational effectiveness and unity.

History of the RTC

The RTC was developed in 1969 as part of the consolidated Federal Law Enforcement Training Center (FLETC). NCPIC approved the preliminary site and building plans for the primary administration structure of the RTC in 1972. In 1978, consolidated federal law enforcement functions were transferred to Glynco, Georgia, and the USSS obtained exclusive use of the Beltsville site.

NCPIC initially approved a Master Plan for the development of the RTC on April 1, 1982. This document was subsequently revised in 1984 to provide guidance for development at the RTC through the 1980s and 1990s. The 1984 Master Plan recommended five phases of development that have since been implemented.

In 1996, a new Master Plan was prepared to guide development necessary to accommodate consolidation of the USSS division in charge of protective, investigative, and employee development training with uniformed USSS personnel training at the RTC. The 1996 Master Plan called for the addition of two training categories within the RTC and the building program included 13 new buildings. At full build-out, the 1996 Master Plan would have accommodated 988 staff and students. Thus, the current population has not exceeded that projected in the 1996 Master Plan. By 2003, much of the proposed build-out had been completed, notably the Bowron Administration Building, the Merletti Classroom Building, and the Magaw Tactical Training Facility. Several smaller buildings were never constructed. One project proposed in 1996, an addition to the Merletti Building, has been designed; a second project, a new building on the site west of Merletti designated as a multi-purpose building, is currently in design.

The most recent Master Plan update effort was completed in 2012. The 2012 Master Plan consolidated functions into new facilities and improved existing facilities to accommodate the continuing and expanding requirements of the program at this world-class campus.

With the 2017 RTC Master Plan Update and SEA, the USSS seeks to adjust the 2012 Master Plan. A summary of the 2017 RTC Master Plan Update below outlines the six precincts and proposed parking plan. The precincts and areas (in acres), totaling 337 acres of development, are as follows:

- Administrative- 43 acres
- Shared Campus Facilities (Support)- 46 acres
- Firearms Training-15 acres
- Protective Operations Driver Training (PODC)- 60 acres
- Tactical Training- 102 acres
- Dynamic Training and Support- 71 acres

The parking developments show an increase from 791 spaces to 1,141 parking spaces. Of the total 1,141 proposed spaces, 781 would be assigned for non-fleet use (visitor and employee). New parking developments show a plan for 307 spaces reserved for employee parking, and 474 assigned to visitor parking. The proposed parking ratio for employee parking spaces to RTC employees is 1:1.5.

Existing Facilities

The existing development on the campus includes low-density buildings ranging from one to two stories. Facilities are not currently organized by function. The RTC's training functions are divided into six distinct branches:

- Academic Process Branch

- Campus Services Branch
- Mission Training Branch
- Special Operations Branch
- Training Management Branch
- Use of Force Branch

The current organization of the campus does not reflect the organization of principal training functions or their respective support facilities at the RTC.

Public and Agency Involvement

In September 2016, USSS sent letters to agencies, organizations, and public officials requesting comments or concerns on the proposed projects. Following the precedent of the 2012 Master Plan processes, the USSS sent letters to the following organizations:

- NCPCC
- National Park Service (NPS)
- National Aeronautics and Space Administration (NASA)/Goddard Space Flight Center
- U.S. Army Corps of Engineers (USACE)
- USDA
- Maryland Department of Planning (MDP)
- Maryland Department of Natural Resources (MDNR)
- Maryland Historical Trust (MHT)
- M-NCPPC
- Prince George's County Police
- Prince George's County Fire/EMS
- Prince George's County Department of Public Works and Transportation
- Prince George's County Department of Environmental Resources
- Snowden Pond at Montpelier Homeowners Association
- Other Local, State, and Federal Government Officials

The USSS considered all comments received during the scoping process in preparation of this SEA and are included in Appendix A.

The USSS also distributed notices of availability of the SEA for public review. Letters were sent to the organizations listed above. A printed copy of the SEA was made available at the Beltsville Public Library for review. In response, the USSS received emails from NASA/Goddard Space Flight Center and Prince George's County Fire/EMS stating that they had no comment. The Maryland State Clearinghouse provided comments from the following agencies:

Maryland Department of the Environment

- Any above-ground or underground petroleum storage tanks must be installed and maintained in accordance with applicable State and federal laws and regulations.
- If the proposed project involves demolition, any above-ground or underground petroleum storage tanks that may be on site must be removed along with its contents and any contamination.

- Any solid waste, including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible.
- The Waste Diversion and Utilization Program should be contacted directly at (410) 537-3314 by those facilities which generate or propose to generate or handle hazardous wastes.
- Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations (COMAR) 26.16.01 - Accreditation and Training for Lead Paint Abatement Services.
- MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance in this project.
- During and post construction, enhanced BMPs or additional controls, potentially above those minimally required, should be utilized to protect high-quality Tier II stream resources.

Maryland Department of Natural Resources

- This project could potentially impact an unnamed tributary to Beaverdam Creek and Beaverdam Creek proper. Both of these streams are classified as Use I streams. Generally, no instream work is permitted in Use I streams from March 1 through June 15, inclusive, during any year to protect spawning fish. Please note that it currently appears that the updated plans would not affect either of these two streams. If this is the case, then the Use I Time of Year restriction would not be required.
- There are several Sensitive Species Project Review Areas located on the west and east sides of the property in addition to Wetlands of Special State Concern on the East side of the property. The Maryland Department of Natural Resources (MDDNR) Wildlife and Heritage Service should be further consulted to see if they have any additional comments concerning further development of the site.
- Beaverdam Creek and its tributaries support many resident fish species documented by the Maryland Biological Stream Survey. MBSS data can be accessed via the MDDNR web page at <http://streamhealth.maryland.gov>, allowing access to resource surveys in neighboring tributaries.

Issues and Impact Topics

This SEA has been prepared to evaluate the potential impacts that the implementation of the proposed Master Plan would have on a range of natural and man-made resources. These include:

- Land Use and Planning Policies
- Socioeconomics, Environmental Justice, and Protection of Children
- Historic and Archaeological Resources
- Roadways and Traffic Patterns
- Parking
- Public Transit
- Topography, Drainage, and Soils
- Water Resources
- Vegetation
- Wildlife
- Noise
- Air Quality
- Utilities
- Stormwater Management

- Sustainability
- Hazardous Materials
- Coastal Zone Management

Several issues were initially considered for evaluation in this SEA, but were eliminated from detailed analysis because impacts to those resources would not occur. The issues considered but dismissed from analysis are described below.

Community Facilities: The implementation of the Master Plan would not be expected to result in demographic changes in the area, and thus it would not impact area schools, police, and fire and rescue services. Thus, this topic was dismissed from detailed analysis.

Floodplains: The 1996 FEMA Flood Insurance Rate Map (FIRM) indicates that the RTC does not lie within either the 100- or 500-year floodplains. In addition, the 2010 preliminary update to the FIRM does not show floodplains within the RTC. Individual projects would be subject to additional floodplain review in accordance with Executive Orders 11988 and 13690. Thus, this topic was dismissed from detailed analysis.

Bicycle and Pedestrian Access: No bicycle or pedestrian routes exist on approaches to the RTC. Bicycling to work is not a feasible transportation option for RTC employees due to safety and security concerns. Thus, this topic was dismissed from detailed analysis.

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Alternatives

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Alternatives

This SEA addresses two alternatives: Alternative A: No Action and Alternative B: Action Alternative. Under Alternative A: No Action, the USSS would continue to implement the 2012 Master Plan for the RTC. Alternative B: Action Alternative would update the 2012 RTC Master Plan to reconfigure the administrative precinct; add new facilities, including the defense tactical facility (DTF); and make other alterations to the RTC.

Actions Common to Both Alternatives

The 2012 RTC Master Plan and the 2017 Master Plan Update contain many common elements. Both alternatives would allow for improvement of programs through the expansion of existing facilities (Figure 2) and infrastructure and security upgrades. Both would reinforce the campus identity through precinct organization that co-locates similar functions; architectural design guidelines to build cohesive campus character; landscaping to maintain natural wooded portions of the campus; and creating a signature outdoor space (Figure 3, Figure 4, and Figure 5).

Under both alternatives, projects would be sited based on use, type of facility, and optimal adjacencies, while avoiding environmentally sensitive areas. In an effort to promote efficient use of the facilities, opportunities for consolidation of space between groups were identified based on the following considerations:

- *Adjacency*- the USSS is divided into operational sections based on their role in the Agency. Individual units have expressed the requirement for immediate or proximate adjacency to other units; opportunities to share similar spaces were explored.
- *Utilization*- within units as well as across units, utilization rates of similar required spaces have been discussed and, where possible, shared space was provided.
- *Tactical and functional synergies*- spaces have been identified that could meet functional requirements and, with minor changes, serve as tactical training locations.

The 2012 RTC Master Plan and the 2017 RTC Master Plan Update consist of six precincts; each precinct organized/arranged by a shared common specific function. Although the relative size and infrastructure of the precincts vary between alternatives, the development plans are based on the following design assumptions:

- Relocation of the primary entrance to a more central location on Powder Mill Road to provide a better interface with local traffic and provide space for improved security (exact size, construction techniques, and materials would be determined at the implementation stage);
- Enhancement of pedestrian amenities through dedicated sidewalks and dedicated pedestrian paths that connect all buildings and areas of the site;
- Location of relatively active functions toward the interior of the campus; and
- Use of previously implemented architectural materials and finishes (such as the Merletti Building) to achieve coherent architectural and environmental development campus-wide.

The six precincts listed below are described in greater detail in the following pages.

- Administration
- Shared Campus Facility
- Firearms Training
- PODC Training
- Tactical Training
- Dynamic Training and Support (referred to as Existing Facilities in the 2012 RTC Master Plan)

Each precinct includes proposed project and site improvements. Although facilities would be located throughout the RTC, the overall development density of the site would be limited. The intent of the USSS is to retain a low-density campus environment.

Site-Wide Elements

Circulation

Several elements of the Plan address site-wide changes to the RTC. As part of reorganizing the campus, the accessibility to the campus itself involves the relocation of the campus entrance from its original position on Powder Mill Road further east, which includes a new gatehouse and access control to the rest of the site positioned to the left of a roundabout, and delivery truck drop-off supply center off the right of the roundabout.

Proposed roadway improvements include the realignment of some existing roads in the southwestern portion of the site and the completion of the loop road. Completion of the loop road is proposed to enable complete perimeter circulation while reducing chances of conflicts and/or delays caused by training exercises that occur on the roadway. In addition to major roadways being paved, the addition of smaller pedestrian paths and sidewalks are proposed to link areas of campus for pedestrian use within and between precincts.

Security

Security improvements proposed for the campus include replacement of the existing perimeter fence with a double fence. The design and placement of the fence is addressed in the architectural guidelines prepared as part of the 2012 and 2017 master plans. The basic layout of updates to campus access, internal circulation, and security include the following:

- Campus Access
 - Traffic Management
 - Campus Entrance

- Service Vehicles
- Perimeter Security
- Internal Circulation
 - Roads
 - Sidewalks and Paths
 - Parking

Utilities

Implementation of the 2012 RTC Master Plan and the 2017 RTC Master Plan Update would require upgrades to the existing infrastructure. Utility infrastructure upgrades are proposed for the water supply system, electrical distribution network, sewage collection and treatment system, natural gas service, and stormwater management. Upgrades would include extensions to the existing natural gas system, extensions to water lines, and new sanitary sewer pump stations and replacement of portions of gravity sewer running at an adverse slope.

Stormwater Management, Wetlands Management, and Sustainability

Stormwater management may be achieved through rain gardens, dry wells, micro-bioretenion, landscape infiltration, rainwater harvesting, green roofs, and permeable pavement. These upgrades would be necessary to ensure adequate stormwater management is available for proposed and future development of the campus. The planned updates would meet Federal Regulations for stormwater management, wetlands management, and sustainability.

All major renovation and new construction at the RTC would be designed to meet Leadership in Energy and Environmental Design (LEED) silver standards, or higher. Sustainable strategies that may be employed in the development of the new facilities include: the use of light-colored and reflective hardscape and roofing to lessen the heat island effect; implementing technologies to retain or treat stormwater on site; landscape and irrigation strategies to reduce potable water use; designing HVAC and lighting to reduce energy use; the use of recycled materials where feasible; and implementing best management practices (BMPs) to reduce pollution due to construction activities.

Precinct Elements

The six precincts organized by function are: Administrative Precinct, the Shared Campus Facilities Precinct, the Firearms Training Precinct, the Protective Operations Driver Course Precinct, the Tactical Training Precinct, and the Dynamic Training and Support Precinct (referred to as Existing Facilities in the 2012 RTC Master Plan). The overall development density on the site would be limited even though facilities would be located throughout the RTC; it is the intent of the USSS to retain a low-density campus environment in the future.

The *Administrative Precinct* (Precinct A) contains shared classroom facilities, student resource spaces, the primary visitor facilities, and buildings related to campus administration and operations. Seven projects are located within the Administrative Precinct. These include the following (building numbers are indicated in parentheses):

- Gatehouse and Site Access Control (11)
- Multi-Purpose Building and Relocation Operations Center (ROC) (12)
- Merletti Building Addition and Renovation (16)
- Bowron Administrative Building (134)

- Cyber Training and Classroom Building (14) (identified as Administration Classroom Building in the 2012 RTC Master Plan)
- Parking Structure (15)
- Supply Center (13)

The *Shared Campus Facilities (Support) Precinct* (Precinct B) contains shared campus services intended to support the operations of the other cores. Four projects are located within the Shared Campus Facilities Precinct. These include:

- Maintenance Yard (21)
- Physical Training Building (22)
- Emergency Medical Training (EMT)/Office of Protective Research (OPR) Facility (23)
- Helicopter Pad (71)

The *Firearms Training Precinct* (Precinct C) contains facilities that support firearms training as well as weapons and ammunition maintenance and distribution. This precinct is located near the Tactical Training buildings for added operational efficiencies. Three proposed projects are located within the Firearms Training Precinct. These include:

- Special Operations Training Section (SOTS) Range Building (31)
- Firearms Training Complex (32)
- Armory (33) (identified as SPD Office Building in 2012 Master Plan)

The *Protective Operations Driver Course Precinct* (Precinct D) contains training and operational facilities related to driver training programs. Five projects are located within the PODC Precinct. These include:

- Moran Building Addition (41)
- Static Display Building (42)
- PODC Pad Expansion (72)
- ATV/4x4 Training (73) (identified as PODC Skid Pad in 2012 Master Plan)
- Vehicle Storage Buildings (121)

The *Tactical Training Precinct* (Precinct E) includes specialized facilities and simulated buildings for scenario exercises. Twelve projects are located within the Tactical Training Precinct. These include:

- Simulation Building (51)
- Airport Building and Apron (53)
- Simpson Building Addition (115)
- Non-Tactical Village and Mock Field Office (54)
- Knight Building Renovation (119)
- East Tactical Village (116)
- Bell Raid House, Residential Scenario- Single Family Home (55)
- Residential Scenario- Townhome (56)
- Judgmental Range (57)
- Cover Course (74)
- Flexible Shoot House (58)

- Tactical Obstacle Course (75)

The *Dynamic Training and Support Precinct* (Precinct F) includes selected existing facilities that would be retained for reuse. As facilities are developed elsewhere on campus, providing new spaces for the basic programs, the existing facilities located in the western portion of the site would become the primary in-service training facilities. Nine projects are located within the Dynamic Training and Support Precinct. These facilities include:

- Wilkie Firearms Building (103)
- Ammunition Storage Depot (104)
- Wilson PT Building (105)
- Baughman Outdoor Firing Range (106)
- Existing Judgmental Range Buildings (107)
- Magaw Tactical Training Facility (130)
- Existing Maintenance Yard (108)
- Munitions Bunkers (511)
- Modular Firing Range (109)

Alternative A: No Action Alternative

Under the No Action Alternative, the USSS would not update the 2012 RTC Master Plan and would continue training and administrative functions at the RTC. Under this alternative, the USSS would continue implementation of the projects described in the 2012 Master Plan for the RTC.

Precinct Elements

In addition to the actions common to both alternatives described above, the following actions would be implemented through the 2012 RTC Master Plan:

Administrative Precinct (Precinct A)

- Specialty Operations Division Office Building

Tactical Training Precinct (Precinct E)

- Confidence Obstacle Course
- White House Lawn Mock-Up

This alternative would not fully support the USSS mission and its current training role; therefore, it is not preferred.

Alternative B: Action Alternative

The USSS proposes to update its 2012 Master Plan to accommodate the expanded training program at the RTC through the addition of new specialized training facilities and the renovation of existing structures (Figure 6). The 2017 RTC Master Plan Update proposes to construct new facilities as well as to continue consolidation of existing facilities into precincts over the next 10 to 15 years. The Plan would allow for improvement of programs through the expansion of facilities and infrastructure and security upgrades.

Precinct Elements

In addition to the actions common to both alternatives described above, the following actions would be implemented through the 2017 RTC Master Plan Update:

Administrative Precinct (Precinct A)

- Data Center (former gatehouse) (101)

Shared Campus Facilities (Support) Precinct (Precinct B)

- Decontamination Building (24)

Tactical Training Precinct (Precinct E)

- Defense Tactical Facility (DTF) (52)

Dynamic Training and Support Precinct (Precinct F)

- Field House (61)
- Storage Building (63)

Alternative Considered But Dismissed

The 2012 RTC Master Plan introduced precincts as a way to group functional needs and reinforce the campus environment. The USSS reviewed the suitability of the precinct concept when preparing the 2017 RTC Master Plan Update. The USSS concluded that the purpose of the precinct concept and the overall configuration of the precincts remained appropriate. For the update to the master plan, the 2017 RTC Master Plan Update continues to use the overall precinct configuration but makes adjustments as needed to meet the purpose and need of the proposed project.

Quadrangle Administrative Precinct

For the 2017 RTC Master Plan Update, the USSS considered alternative configurations of the Administration Precinct. In one configuration, which would be similar to the 2012 RTC Master Plan, the placement of structures within the Administration Precinct would form three sides of a quadrangle with the intent to enhance the campus quality of the RTC. Because one side of the quadrangle would remain open and one of the buildings included was a parking structure, USSS determined that such a configuration did not support the campus-like feel. In addition, such a configuration would require the relocation of numerous utilities and disturbance of existing trees. Based on exploration of the data and consultation through the scoping process, this alternative was dismissed from further consideration.

Hybrid Curving Quadrangle Administrative Precinct

The USSS also considered a hybrid curving quadrangle configuration for the Administration Precinct. Under this alternative, the curving roadway configuration would be in place, but structures would be located to frame much of the roadway edge. A new building would be located between the Merletti Building and the multipurpose building. Parking would be spread out along the northern quadrangle roadway. Similar to the quadrangle configuration above, large portions of the curving quadrangle would remain open, thus limiting its effectiveness as a central campus feature. Similarly, numerous utilities would require relocation. As a result, this alternative was dismissed from further consideration.



Figure 2: Existing Site Plan
Source: HGA 2017



Figure 3: 2012 RTC Master Plan

Source: HGA 2016



Figure 4: Proposed 2017 RTC Master Plan Update

Source: HGA 2017

- 11 (New) Gatehouse & Site Access Control
- 101 (Former Gatehouse) Data Center
- 12 Multipurpose Building & ROC Facility
- 13 Supply Center
- 14 Cyber Training and Classroom Building
- 15 Parking Structure
- 16 Merletti Building Addition and Renovation
- 134 Bowron Administrative Building
- 21 *Drummond Airport Building/
Proposed Maintenance Yard
- 22 Physical Training Building
- 23 EMT/OPR and Gas Exposure Facility
- 24 Decontamination Building
- 71 Helicopter Pad
- 31 SOTS Range Building (300 yd range)
- 32 Firearms Training Complex
- 33 Armory
- 41 Moran Building
- 42 Static Display Building
- 72 PODC Expansion
- 73 ATV/4x4 Training4
- 121 Vehicle Storage Buildings
- 51 Simulation Building2
- 52 Defense Tactical Facility (DTF)
- 53 Airport Building & Apron
- 115 Simpson Building
- 54 Non-Tactical Village & Mock Field Office
- 119 Knight Building
- 116 East Tactical Village
- 55 *Bell Raid House
- Residential Scenarios- Single Family Homes*
- 56 Residential Scenarios-Townhouses
- 57 Judgmental Range
- 74 Cover Course
- 58 Flexible Shoot House
- 75 Tactical Obstacle Course
- 61 Field House
- 62 Canine Training Facility
- 63 Storage Building
- 103 Wilkie Firearms Building
- 104 Ammunition Storage Depot
- 105 Wilson PT Building
- 106 Baughman Outdoor Firing Range
- 107 Existing Judgmental Range Building
- 109 Modular Firing Range
- 130 Magaw Tactical Training Facility
- 108 Existing Maintenance Yard
- 511 Munitions Bunkers

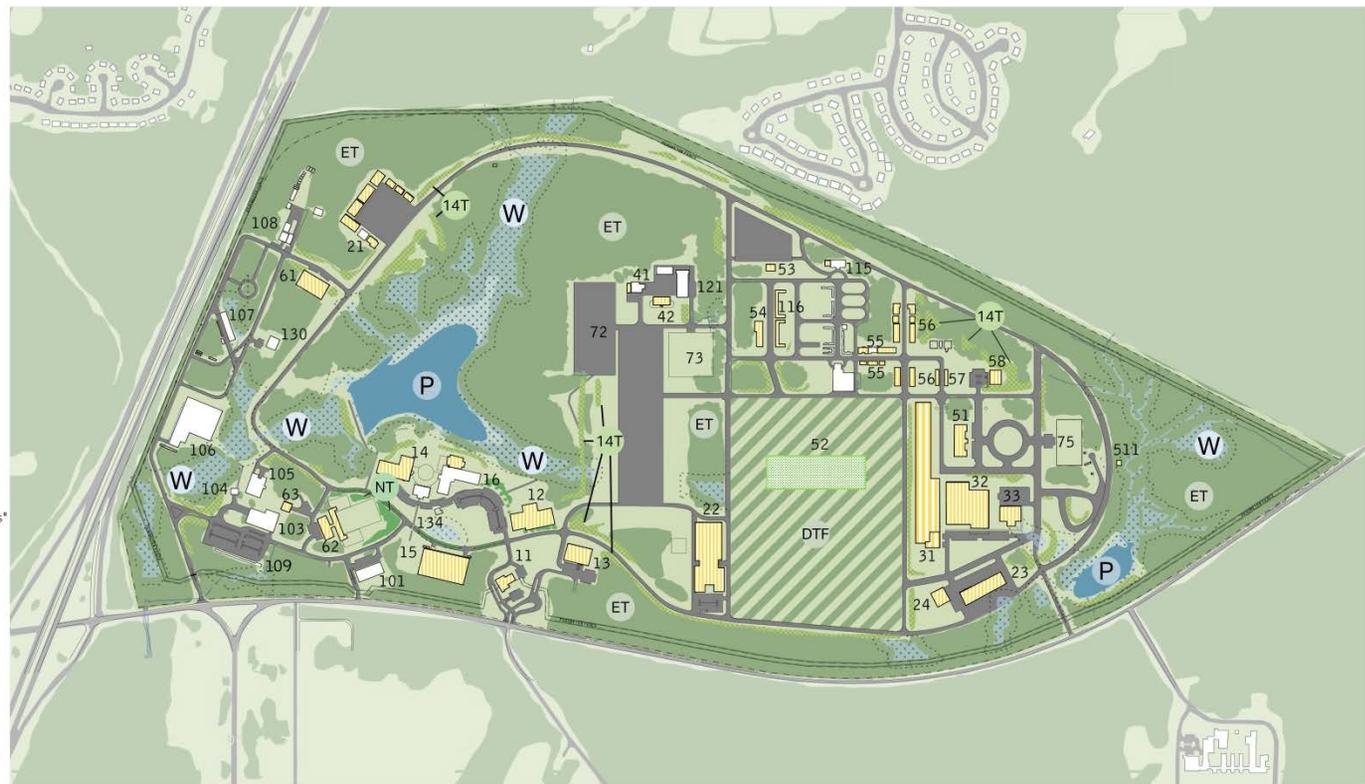
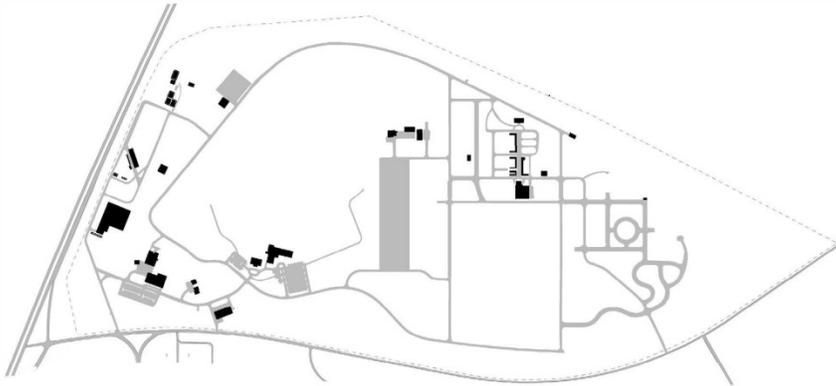


Figure 5: Comparison of 2012 RTC Master Plan and 2017 Master Plan Update
 Source: HGA 2017



Existing Site Layout



2012 RTC Master Plan Site Layout (hatched area represents new development areas)



Proposed 2017 RTC Master Plan Update Site Layout (hatched area represents additional development areas beyond 2012 RTC Master Plan)

Figure 6: Comparison of Existing Conditions, 2012 RTC Master Plan, and 2017 RTC Master Plan Update

Source: HGA 2017

Affected Environment and Environmental Consequences

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Affected Environment and Environmental Consequences

The following discussion describes the existing conditions of the affected environmental resources and the environmental consequences, both beneficial and adverse, of the proposed alternatives. As documented in the Introduction, resources that are not likely to result in impacts from the alternatives have been dismissed from detailed analysis.

Methodology of Affected Environment and Environmental Consequences

Affected Environment

The affected environment describes the existing resources that may be affected by the alternatives. The study area for these resources is the limits of the RTC campus, except in the cases of land use and planning policies; socioeconomics, environmental justice, and protection of children; roadways and traffic patterns; public transit; and noise. For these exceptions, the study areas include areas that could be affected beyond the boundaries of the RTC; the extent of each resource-specific study area is identified within the affected environment discussion for these resources.

Environmental Consequences

In the following analysis, impacts are characterized by several factors including intensity, type, and duration. Definitions of these terms and related assumptions are provided below:

Intensity- The intensity of an impact describes the magnitude of changes that the impact generates. For the majority of the resource areas, the intensity thresholds are as follows:

- Negligible: There would be no impact, or the impact would not result in a noticeable change in the resource.
- Minor: The impact would be slight, but detectable, resulting in a small but measurable change in the resource.
- Moderate: The impact would be readily apparent and/or easily detectable.
- Major: The impact would be widespread and would substantially alter the resource. A major adverse impact would be considered significant under NEPA.

Type- The impact type refers to whether it is adverse (negative) or beneficial (positive). Adverse impacts would potentially harm resources, while beneficial impacts would improve resource conditions. Within the analysis, impacts are assumed to be adverse unless identified as beneficial.

Duration- The duration of an impact identifies whether it occurs over a restricted period of time (short-term), or persists over a longer period (long-term). For the purposes of this analysis, it is assumed that short-term impacts would occur during the construction of the improvements, while long-term impacts would persist once the construction is complete. Impacts are assumed to be long-term unless identified otherwise.

In addition to the factors detailed above, impacts may be characterized as direct, indirect, or cumulative. A direct impact is caused by the action and occurs at the same time and place. An indirect impact is caused by the action, but occurs later in time, or farther removed in distance. A cumulative impact occurs when the proposed action is considered together with other past, ongoing, or planned actions.

Land Use and Planning Policies

Land Use and Planning Policies Affected Environment

Land Use

The RTC is a federal facility located in Beltsville, Maryland in the northern portion of Prince George's County. The RTC is a low-density campus used for specialized training by the USSS. Facilities are spread out across the campus and are not laid out according to a particular development pattern. Campus facilities include space for administrative support, classroom training, physical training, firearms training, canine training, driver training, scenario based exercises, and other specialized training functions. The RTC campus's land use category is classified as Reserved Open Space in Prince George's County Sub-Region I Master Plan (2010); however, as a federal property, the RTC is not subject to local zoning regulations.

The areas in the vicinity of the RTC include federal lands used for research purposes, transportation corridors, and residential uses. Nearby federal facilities include the 6,500-acre Beltsville Agricultural Research Center (USDA 2016), which surrounds the RTC to the south and east; the 13,000-acre Patuxent Wildlife Research Center (USGS 2016), which borders the RTC to the southeast; and the 1,270-acre NASA Goddard Space Flight Center located south of the BARC. The area to the north of the RTC includes a residential development, the Snowden Pond at Montpelier neighborhood. The B-W Parkway borders the western side of the campus.

The Sub-Region I Master Plan designates the land use within the boundaries of the BARC as Institutional. BARC is part of the main research agency of the USDA and the majority of the BARC property in the vicinity of the RTC is either cultivated or undeveloped. NASA's Goddard Space Flight Center is located to the south of the USDA land. The Goddard property is a low-density campus with scattered facilities and surface parking throughout the western portion, and primarily undeveloped land in the east. The Goddard Center is a federal research organization dedicated to scientific investigations related to the space systems and technologies.

The southern portion of the Patuxent Wildlife Research Center is located east of the RTC across Powder Mill Road. The Patuxent Wildlife Research Center is a federal research complex of the USGS and is administered by the U.S. Fish and Wildlife Service. The Center predominantly includes natural open space areas dedicated to the observation and study of biological resources. It offers observation and

interpretive areas, offices, biological research and study sites, a national wildlife visitor center, and walking trails. Only the visitor center and the North Tract, which offers hunting, fishing, wildlife observation, trails, and many interpretive programs, are open for visitor activities.

Residential developments, accessed from Maryland Route 197, are located to the north of the RTC. A single-family housing subdivision, Snowden Pond at Montpelier, approximately 200 acres in size, is located immediately northeast of the RTC, and a 60-acre multi-family residential development is located near the B-W Parkway to the northwest of the RTC. The area is zoned as Rural Residential, with some small areas zoned for Multifamily Residential, General Commercial or Planned Industrial Park.

Incorporated cities located in the vicinity of the RTC include Laurel, Beltsville, Greenbelt, and Bowie. The Sub-Region I Master Plan does not propose changes in land use for the area near the RTC.

Planning Policies

Comprehensive Plan for the National Capital

NCPC oversees the development of federal lands and the federal interest in the National Capital Region, which includes the District of Columbia and the surrounding counties in Maryland (Montgomery and Prince George's) and Virginia (Arlington, Fairfax, Loudoun, and Prince William), and the incorporated cities therein. For federal projects within the District of Columbia, NCPC has an approval role; for projects in Maryland and Virginia, NCPC plays an advisory role by providing comments on federal plans, such as the proposed 2017 RTC Master Plan Update. The *Comprehensive Plan for the National Capital, Federal Elements* (1977-1984, updated 2016) is the principal planning document adopted by NCPC for the planning of federal facilities. The Plan contains goals, objectives, and policies to direct and manage growth throughout the metropolitan area. Of particular relevance to the proposed project are policies outlined within *The Federal Workplace Element*, *The Transportation Element*, *The Parks and Open Space Element*, and *The Federal Environment Element*.

The goal of *The Federal Workplace Element* is to "locate the federal workforce in a way that enhances the efficiency, productivity, value, and public image of the federal government; strengthens the National Capital Region's economic well-being; and emphasizes the District of Columbia as the seat of the federal government." Policies specifically relevant to the proposed 2017 RTC Master Plan Update include the following:

- Utilize available federally owned land or space before purchasing or leasing additional land or building space. Agencies should continuously monitor land and building space utilization rates to ensure their efficient use;
- Establish the level of employment that can be accommodated on installations where more than one principal building, structure, or activity is located or proposed through the master planning process as established by the Commission;
- Locate, design, construct, and operate federal facilities to minimize total energy use;
- Continue to provide and maintain safe and healthy working conditions at all federal facilities; and
- Develop master plans that guide the long-range development of installations where more than one principal building, structure, or activity is located or proposed.

The Parks and Open Space Element establishes policies to uphold the symbolic, recreational, social, and ecological values of national capital parks, waterfronts, and other open spaces. Policies specifically relevant to the proposed project include:

- Maintain and conserve trees and other vegetation in the landscaped buffer areas on federal installations in a natural condition. Perimeter roads and cleared areas on these sites should be kept to a minimum, carefully landscaped, and managed in a manner that addresses security, aesthetics, and natural character; and
- Maintain parkways as scenic landscape corridors, and protect their historic aspects.

The Transportation Element states that “it is the goal of the federal government to develop and maintain a multi-modal regional transportation system that meets the travel needs of workers, residents, and visitors, while improving regional mobility, accessibility, air quality, and environmental quality through expanded transportation alternatives and transit-oriented development.” Several policies are particularly relevant to the 2017 RTC Master Plan Update. Policies regarding parking include:

- Provide temporary parking for official vehicles and visitors. The number and location of spaces should be justified in the facility’s master plan and Transportation Management Plan;
- Place parking in structures, preferable below ground, in the interest of efficient land use and good urban design. Any parking facility, including surface parking lots and free-standing parking structures, should be designed and constructed to be sensitive to the surrounding context and in an environmentally-sensitive manner using features such as permeable pavers, bioswales, green roofs, solar panels, and/or wind turbines. Parking structure design should provide opportunities for future conversion to open or usable space and enhance adjacent public space, where possible;
- Position parking facilities to not obstruct pedestrian or bicycle access to buildings, and to minimize their visibility from surrounding public rights of way. Access to parking facilities should be consolidated, and curb cuts minimized, where possible;
- Provide parking for disabled persons in accordance with federal law; and
- Give priority parking spaces to carpool and vanpool vehicles, hybrid vehicles, and other vehicles utilizing “clean” technology.

Additionally *The Transportation Element* identifies parking ratios for federal facilities located beyond 2,000 feet of a Metrorail station. For these facilities, the goal is to provide one parking space for every 1.5 employees (1:1.5 ratio). NCPC considers parking ratios for all federal facilities within the context of the Constrained Long Range Plan, a 25-year regional transportation plan that ties air quality and transportation improvements to available funding sources.

According to *The Transportation Element*, federal agencies should use a Transportation Management Plan (TMP) to document an employer’s active program to foster more efficient employee commuting patterns. The plan should include specific strategies to encourage change in employee travel modes, trip timing, frequency and length, and travel routes so as to reduce traffic congestion and improve air quality. Specifically, federal agencies should:

- Prepare Transportation Management Plans to encourage employee commuting and work-related travel by modes other than the single-occupant vehicle. The TMP should evaluate opportunities

and establish goals for employee commuting and work-related trips through active commuting, the use of telework and flexible schedules, transit, as well as carsharing and vehicle pooling;

- Develop TMPs that explore methods and strategies to meet prescribed parking ratios. A thorough rationale and technical analysis must be provided to support all TMP findings and goals; and
- Include, within TMPs, implementation plans with specific proposed actions and timetables outlining each agency's commitment to reaching short and long-term TMP goals, as well as goals established in their Strategic Sustainability Performance Plans.

According to *The Federal Environment Element*, it is the federal government's goal to "promote the National Capital Region as a leader in environmental stewardship and sustainability. The federal government seeks to preserve and enhance the quality of the region's natural resources to ensure that their benefits are available for future generations to enjoy." The policies outlined below are directly applicable to the 2017 RTC Master Plan Update.

The Federal Environment Element states that, in an effort to reduce stationary sources of air pollutants, federal agencies should:

- Minimize power generation requirements, such as by using best available green building systems and technologies;
- Use less-polluting sources of energy like clean renewable energy (e.g., solar, geothermal, and wind);
- Encourage the development and use of alternative and distributed energy sources to reduce the reliance on fossil fuels; and
- Use environmentally-friendly green building materials, construction methods, and building designs to promote safe indoor air quality.

With respect to water quality, federal actions in the region should conform to the following policies:

- Minimize tree cutting and other vegetation removal to reduce soil disturbance and erosion, particularly in the vicinity of waterways. When tree removal is necessary, trees should be replaced to prevent a net tree loss;
- Use pervious surfaces and retention ponds to reduce stormwater runoff and impacts on off-site water quality; and
- Encourage the use of innovative and environmentally friendly BMPs in site and building design and construction practice to reduce erosion and avoid pollution of surface waters.

In order to maintain an adequate water supply throughout the region, federal actions in the region should conform to the following policies:

- Encourage the natural recharge of groundwater and aquifers by limiting the creation of impervious surfaces, avoiding disturbance to wetlands and floodplains, and designing stormwater swales and collection basins on federal installations, and using pervious surfaces wherever possible;
- Upgrade water supply and sewage treatment systems, modernize storm and sanitary sewer systems, and integrate green infrastructure approaches to avoid the discharge of pollutants into waterways;

- Use pervious surfaces and bio-retention facilities, if appropriate to the site, to reduce stormwater runoff and impacts on off-site water quality;
- Encourage the use of innovative and environmentally-friendly BMPs in site and building design and construction practice, such as green roofs, bio-retention ponds, vegetated filtration strips, rain gardens, and permeable surface walkways, to reduce erosion and clean and capture stormwater on-site;
- Prevent unnecessary wastewater discharge and the potential for combined sewer overflow events. Require reduced wastewater output through conservation and reuse in all new federal buildings and major federal renovation projects consistent with the Energy Independence and Security Act of 2007 and all applicable policies;
- Promote water conservation programs and the use of water-saving technologies including landscaping and irrigation strategies that conserve and monitor water consumption in all federal facilities;
- Encourage the implementation of water reclamation programs at federal facilities for landscape irrigation purposes and other appropriate uses; and
- Reduce or eliminate the use of potable water (water that is safe for humans to drink) for landscaping or water features. Encourage the reuse of greywater.

In an effort to preserve land resources, federal actions in the region should conform to the following policies:

- Protect the physical and ecological functions of wetlands and riparian areas with priority in the following order:
 - Avoid development of areas that contain wetlands, including isolated wetlands, or on sites that would impact the quality and health of nearby wetlands.
 - Minimize the impacts on wetlands by reducing the area of disturbances. If construction in a wetland is necessary, utilize the highest standard in project development requirements to minimize adverse impacts.
 - Replace wetlands that are lost or degraded as a result of site development.
- Coordinate wetland activities with federal, state, and local government programs and regulations, including the Chesapeake Bay Program. Support local and regional watershed implementation plans and regulations;
- Design vegetated buffer strips around wetlands and waterbodies to capture and clean stormwater runoff. Encourage restoration of streams and streams banks that have been negatively impacted by runoff;
- Protect wetlands and waterbodies from indirect impacts such as significant adverse hydrological modifications, excessive sedimentation, deposition of toxic substances in toxic amounts, nutrient imbalances, and other adverse anthropogenic impacts;
- Promote improvement of degraded wetlands, especially during substantial building or site improvements on federal property;
- Employ BMPs to reduce the potential for soil erosion and the transportation of sediment, consistent with state and local requirements;
- Identify and protect soil protection zones;
- Create and implement an erosion and sedimentation control plan during construction to prevent damage or loss of critical soils;
- Avoid soil compaction in design of landscape plans, during construction, and maintenance;

- Minimize tree cutting and other vegetation removal to support soil structure (slope, geometry, location, and geologic content), reduce soil disturbance, and limit erosion. When tree removal is necessary, replace trees, shrubs, and other vegetation to prevent a net vegetation loss;
- Enhance degraded soils during substantial building or site improvements on federal property;
- Preserve existing vegetation, especially large stands of trees;
- When tree removal is necessary, trees should be replaced to prevent a net tree loss to the project area, according to the following procedures:
 - An evaluation of potential tree loss should be made prior to any removal. Trees shall be replaced according to the regulations of the local jurisdiction.
 - Trees of 10 inches in diameter or less would be replaced at a minimum of a one-to-one basis
 - Larger trees (diameter greater than 10 inches) would be replaced at a rate derived from a formula of the Internal Society of Arboriculture, or as established by the local jurisdiction's requirements for tree replacement.
 - The replacement of trees should be located on-site, on adjacent properties, or in areas within the site's jurisdiction.
- Incorporate new trees and vegetation into plans and projects to absorb carbon dioxide, moderate temperatures, minimize energy consumption, reduce pollution, and mitigate stormwater runoff. This includes the use of vegetation in the design and development of green roof projects where feasible and consistent with local regulations;
- Maintain and preserve woodlands adjacent to waterways, especially to aid in the control of erosion, sediment, and thermal pollution;
- Protect and preserve all vegetation designated as special status plants;
- Use vegetation to minimize building heating and cooling requirements;
- Use trees and other vegetation to offset emissions of greenhouse gases from operations. Plant and maintain trees and other vegetation to achieve long-term storage of carbon dioxide following accepted protocols that ensure offsets are permanent and verifiable;
- Discourage development or significant alteration of areas used by wildlife, including migratory wildlife;
- Encourage facility design and landscaping practices that provide food and cover for native wildlife;
- Avoid actions that could have significant long-term adverse effects on aquatic habitats, such as dredging and filling operations that disrupt and destroy organisms;
- When constructing in areas near wildlife habitat, consider the following:
 - Use buffer areas to transition the intensity of uses (active uses, passive uses, and conservation areas) from development to wildlife functions.
 - Design the site to avoid habitat fragmentation.
 - When constructing barriers (such as roadways, railways, bridges, and fences) through areas of wildlife habitat, consider design methodologies that allows species movement through barriers.

With regard to human activities, the federal government should:

- Avoid locating activities that produce excessive noise near sensitive natural resources, and land uses such as residential areas, hospitals, schools, and major public and civic destinations;

- Ensure that construction activities comply with local noise ordinance, and coordinate with local government and adjacent communities to establish limits on the intensity and hours of noise generation;
- Improve environmental performance and reduce costs in existing federal buildings through targeted energy improvements, such as:
 - Optimizing the efficiency of heating, ventilation, and cooling systems with more efficient boilers, motors, and variable-speed drives; and
 - Reducing energy and maintenance costs by installing centralized energy management systems.
- At least 30 percent of hot water demand in new or renovated federal buildings should come from solar hot water heating if life-cycle cost-effective. Existing buildings with minor renovations must incorporate the most energy-efficient designs, equipment, and controls; and
- Pursue energy conservation strategies at a multi-building or district-level.

Maryland Plans and Policies

The economic development, resource management, and planning policies of the State of Maryland are articulated through the Maryland Economic Growth, Resource Protection, and Planning Act of 1992 (S 3.06(b) Article 66B), Annotated Code of Maryland. The policy is organized around seven statutory vision statements which must be pursued in county and municipal comprehensive plans, where priorities for land use, economic growth, and resource protection are established. The seven vision statements address:

- Concentrating growth in suitable areas;
- Protecting sensitive areas;
- Directing growth in rural areas to existing population centers;
- Promoting stewardship of the Chesapeake Bay as a universal ethic;
- Practicing resource conservation and reduced resource consumption;
- Encouraging economic growth and streamlining of regulatory mechanisms; and
- Providing funding mechanisms to achieve these visions.

The visions must also be followed by the State in undertaking its various programs. The Act also established an Economic Growth, Resource Protection, and Planning Commission to oversee, study, and report on progress towards implementation of the visions.

Prince George's County Land Use Planning and Zoning

The M-NCPPC was created by the Maryland General Assembly in 1927 to develop and operate public park systems and provide land use planning for the physical development of the majority of Montgomery and Prince George's Counties, and to operate the public recreation program in Prince George's County. The M-NCPPC is responsible for instituting land use planning and zoning for Prince George's County. The Sub-Region I Master Plan (2010) governs land use planning and zoning areas in the vicinity of the RTC. Sub-Region I is generally bounded by the Montgomery County Line to the west, the Capital Beltway and Powder Mill Road to the south, the B-W Parkway and the Anne Arundel County line to the east, and the Howard County line to the north.

Plan Prince George's 2035, the County's approved general plan, provides recommendations for guiding future development within Prince George's County. The plan designates eight Regional Transit Districts, six Neighborhood Reinvestment Areas, and Rural and Agricultural Areas, as well as areas that are

considered established communities. The plan contains recommended goals, policies, and strategies for the following elements: Land Use; Economic Prosperity; Transportation and Mobility; Natural Environment; Housing and Neighborhoods; Community Heritage, Culture, and Design; Healthy Communities; and Public Facilities.

The RTC is located within an area designated as established communities. Plan Prince George's 2035 states that established communities are most appropriate for context-sensitive infill and low-to-medium-density development. The plan specifically identifies the following policies:

- Undertake measures and conditions, as appropriate, to help implement and meet the State and federal pollution reduction requirements of the local Phase II Watershed Implementation Plan for the Chesapeake Bay Total Maximum Daily Load (TMDL) and county Municipal Separate Storm Sewer System (MS4) requirements in coordination with county efforts.
- Implement green building techniques and green neighborhood design to reduce energy use, stormwater runoff, and the heat island effect; improve air and water quality; and increase opportunities to reduce, reuse, and recycle construction waste.
- Provide adequate protections and screening from noise to ensure that the State of Maryland noise standards are being met through the provision of earthen berms, plant materials, fencing, and the establishment of a building restriction line.
- Promote innovative conservation approaches to reduce water consumption, reuse reclaimed water, and recycle treated waste water.
- Preserve and enhance existing forest and tree canopy coverage levels.

Alternative A: No Action Alternative Land Use and Planning Policies Environmental Consequences

Land Use

Alternative A would maintain the institutional use of the site. Potential environmental impacts would be minimized by the clustering of functional areas into compact cores. New facilities are proposed as infill development, with no expansion of the campus boundaries. Infill development and reorganization of the facilities would result in a more coherent pattern of functional relationships among the activities of the RTC. Alternative A would not result in impacts on the zoning of adjacent or nearby areas. The operation of the proposed new facilities would not result in land use changes to nearby properties.

Overall, the reorganization and redefinition of the campus into functional cores would result in a long-term beneficial impact on uses within the RTC. Impacts on uses outside of the RTC would be negligible.

Planning Policies

Alternative A would be consistent with several applicable objectives identified within the *Comprehensive Plan for the National Capital*; particularly, the *Federal Workplace Element*. The 2012 RTC Master Plan would utilize available federally owned land; establish a level of employment that can be accommodated on installations with more than one principal building, structure, or activity through the master planning process; continue to provide and maintain safe and healthy working conditions, designs, constructs, and plans to operate federal facility with minimal total energy use; and guides the long range development of installations where more than one principal building, structure, or activity is proposed.

The proposed action would also be consistent with applicable policies within the *Parks and Open Space Element*, as it would maintain and conserve large portions of the RTC in their natural condition. In addition, viewsheds along the B-W Parkway would not be affected by the implementation of Alternative A.

The implementation of the 2012 RTC Master Plan would be consistent with additional policies within the *Transportation Element*. The plan would provide parking for official vehicles and visitors in accordance with Federal Property Management Regulations. The 2012 RTC Master Plan encourages employees to commute by means other than single occupancy vehicles (such as by walking, ridesharing, biking, etc.), in addition to providing parking for disabled persons in accordance with federal law, and giving parking priority to carpools and vanpools over single-occupant vehicles. Finally, the plan would provide sidewalks between adjacent buildings. The USSS has prepared a TMP in order to foster efficient employee commuting patterns.

Consistent with the objectives stated in the *Transportation Element*, the proposed parking structure under Alternative A would provide parking spaces within a centrally located structure in an effort to maximize efficient use of land. The parking facility could help eliminate the need to park alongside roadways, which currently obstructs pedestrian and bicycle training activities. In accordance with the *Transportation Element*, the ratio of employee designated parking spaces to employees would be 1:1.5. The parking structure would not only serve as a parking venue but it would also serve an important training function.

Consistent with the policies stated in the *Federal Environment Element*, reorganization of and improvements to the RTC under the 2012 RTC Master Plan would include efforts to minimize power generation requirements; carefully control and reduce the incineration of waste materials, particularly those that may contain toxic substances; use environmentally-friendly green building materials, construction methods, and building designs; and temporarily reduce the generation of emissions that contribute to ozone formation in both short-term and long-term use. Buildings would be designed to meet LEED Silver standards at a minimum, thereby minimizing power generation requirements and potentially promoting indoor air quality.

With respect to water quality, the 2012 RTC Master Plan is consistent with policies in the *Federal Environment Element* to reduce air and water quality impacts and preserve land resources. Furthermore, the Plan would maintain vegetated buffers adjacent to bodies of water, minimize tree cutting and other vegetation removal, preserve existing vegetation, incorporate new trees and vegetation, use pervious surfaces to reduce stormwater runoff where viable, and employ Best Management Practices.

With regard to wetlands, the USSS would avoid development of areas containing wetlands where possible; minimize direct and indirect impacts; replace wetlands lost or degraded as a result of any site development; coordinate wetlands activities with federal, state, and local programs; protect wetlands and waterbodies from indirect impacts; promote improvement of degraded wetlands; discourage development in areas of high erosion potential; and maintain and preserve woodlands and vegetated areas on steep slopes and adjacent to waterways. Implementation of the Plan would create and implement an erosion and sedimentation control plan, avoid soil compaction during construction and maintenance, discourage development or significant alteration of areas used by wildlife, and use buffer areas to transition the intensity of uses from development to wildlife functions.

The 2012 RTC Master Plan would be consistent with policies to implement waste reduction measures, manage, and dispose of hazardous wastes and toxic substances in a safe manner.

The 2012 RTC Master Plan would not be entirely consistent with the policies related to noise, as the training facilities would be expanded in proximity to the residential uses to the north of the site. During the design of potentially noise-producing training venues proposed under the plan, the impact of noise generated by the new development and potential mitigation measures would be studied.

The 2012 RTC Master Plan would generally be consistent with State planning policies. In accordance with Maryland Plans and Policies, Alternative A would concentrate growth in a suitable area, would protect sensitive areas, and would practice resource conservation.

Alternative A would generally be consistent with local planning policies. The 2012 RTC Master Plan would maintain the low to moderate-density character of the site, consistent with established communities area designation identified in the Plan Prince George's 2035. In order to implement the alternatives, the USSS would obtain the necessary stormwater management permits in accordance with county regulations. Alternative A calls for the use green building techniques, which would help address issues such as the heat island effect, as well as water conservation. These measures would be consistent with the Plan Prince George's 2035.

The implementation of the 2012 RTC Master Plan would not fully provide protections and screening from noise or maintain tree canopy coverage levels. Alternative A would use plant materials, fencing, and building lines to minimize noise impacts to the extent feasible. Alternative A would remove approximately 35 acres of forest.

Implementation of the 2012 RTC Master Plan would generally be consistent with applicable federal, State, and local plans, policies, and regulations, and adhere to those standards. Implementation would be partially consistent with, and adhere to, local noise or tree canopy requirements. Overall, impacts on planning policies would be negligible.

Alternative B: Proposed Action Alternative Land Use and Planning Policies Environmental Consequences

Alternative B would have similar impacts on land use and planning policies as those for Alternative A with the exception that the 2017 RTC Master Plan Update would remove approximately 76 acres of forest, which would reduce the tree canopy coverage level at the site. Overall, implementation of the 2017 RTC Master Plan update would be consistent with plans, policies and regulation and adhere to those standards. Impacts on planning policies would be negligible.

Socioeconomics, Environmental Justice, and Protection of Children

This section describes the general socioeconomic characteristics of the community around the RTC. The socioeconomic study area consists of the 2010 U.S. Census tracts in which the RTC is wholly located (Tract 8002.06) and two adjacent tracts within one mile of the RTC (Tracts 8002.08 and 8004.11). This is the area in which impacts potentially resulting from implementation of the proposed action would most likely be experienced by the resident population. Characteristics of the individual census tracts comprising the study area, Prince George's County, and the State of Maryland are provided for comparison purposes.

Population

Population figures are presented in Table 1. The socioeconomic study area is home to about 2 percent of Prince George's County's total population. The tract in which the RTC is located, 8002.6, is the least

populous tract in the study area, while Tract 8002.08, located to the northwest of the RTC on the opposite side of the B-W Parkway, is the most populous.

Table 1: Population

Geography	Population (number)
Maryland	5,773,552
Prince George's County	863,420
Study Area	15,882
Census Tract 8002.6	3,989
Census Tract 8002.08	7,641
Census Tract 8004.11	4,252

Source: 2010 U.S. Census

Age

As shown in Table 2, the study area is home to a somewhat higher percentage of children (defined as persons under the age of 18) than the state and county. The percentage of children in the individual study area tracts exceed reference populations in the state and county, comprising almost half the population in Tract 8004.11 and slightly more than one-quarter of the population in Tracts 8002.06 and 8002.08.

Table 2: Age

Geography	Percent of Population Under 18 Years of Age
Maryland	23
Prince George's County	24
Study Area	33
Census Tract 8002.6	27
Census Tract 8002.08	27
Census Tract 8004.11	49

Source: 2010 U.S. Census

Race and Ethnicity

The racial and ethnic composition of the socioeconomic study area is presented in Table 3. Minorities make up a majority of the study area population, exceeding their proportion throughout the state but representing a somewhat smaller share of the population than in Prince George's County as a whole.

Table 3: Race and Ethnicity

Geography	Race / Ethnicity ⁽¹⁾ (percent of population)						Total Minority ⁽⁴⁾
	White	Black / African-American	American Indian / Alaska Native	Asian	Other Race ⁽²⁾	Hispanic / Latino ⁽³⁾	
Maryland	58	29	0.35	6	6	8	41
Prince George's County	19	64	0.49	4	12	15	80
Study Area	25	60	0.31	7	7	9	74
Census Tract 8002.6	20	68	0.18	5	7	9	80
Census Tract 8002.08	29	57	0.22	7	7	9	71

Geography	Race / Ethnicity ⁽¹⁾ (percent of population)						Total Minority ⁽⁴⁾
	White	Black / African-American	American Indian / Alaska Native	Asian	Other Race ⁽²⁾	Hispanic / Latino ⁽³⁾	
Census Tract 8004.11	24	58	0.61	10	8	8	77

Notes:

1. No persons identifying as Native Hawaiian / Pacific Islander were counted during the 2010 U.S. Census in the three census tracts comprising the study area. Therefore, that category is omitted from this table.

2. Category includes those identifying as two or more races.

3. Hispanic or Latino ethnicity may be of any race and their percentages are already included among other racial categories.

4. Total of all non-white racial percentages in each row.

Source: U.S. Census 2010

Poverty

As presented in Table 4, median household income in the study area and its individual census tracts is higher than in Maryland and Prince George's County. The percentage of those living in poverty in the state and county is higher than in the study area and its individual census tracts.

Table 4: Median Household Income and Poverty

Geography	Median Household Income (dollars)	Percentage of Population Below Poverty Level
Maryland	74,551	10
Prince George's County	74,260	10
Study Area	82,422	5
Census Tract 8002.6	80,333	4
Census Tract 8002.08	93,379	6
Census Tract 8004.11	82,422	4

Source: 2011-2015 American Community Survey 5-year estimates / S1701

Environmental Justice

Signed on February 11, 1994, Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs all federal departments and agencies to incorporate environmental justice considerations in achieving their mission. Each federal department or agency is to accomplish this by conducting programs, policies, and activities that substantially affect human health or the environment in a manner that does not exclude communities from participation in, deny communities the benefits of, nor subject communities to discrimination under such actions because of their race, color, or national origin.

According to CEQ guidance on EO 12898, "minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis [...] Low income populations in an affected area should be identified using the annual statistical poverty thresholds from the Bureau of the Census."

As shown in Table 3, the minority population of the study area as well as the individual census tracts comprising the study area is greater than 50 percent. Thus, the study area and its individual tracts constitute an Environmental Justice (EJ) Community of Concern based on race and ethnicity.

The median household income of the study area and its individual census tracts exceeds that of the state and county as a whole, as presented in Table 4. Also shown in Table 4, the percentage of those living in poverty in the study area and the individual tracts comprising it is approximately half of the proportion of those living in poverty in Maryland and Prince George's County. Based on this analysis, the study area and its individual tracts do not qualify as a low-income EJ Community of Concern.

Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was signed on April 21, 1997. Because the scientific community has recognized that children may suffer disproportionately from environmental health and safety risks, the EO directs federal agencies to identify and assess such risks, and consequently to ensure that its policies, programs, activities, and standards address effects on children. "Environmental health and safety risks" are defined as "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." Regulatory actions that are affected by this EO are those substantive actions that involve an environmental health risk or safety risk that an agency has reason to believe may disproportionately affect children.

To identify unusually high concentrations of children in the study area, a threshold value was established by multiplying the average of the percentages of children in each tract by 1.1 as this was judged to be a substantial but conservative increment that would be indicative of areas of concern for those under 18 years of age. Thus, census tracts where the percentage of the population under 18 years of age is equal to or exceeds 38 percent are considered to have unusually high concentrations of children.

Based on this parameter and the information presented in Table 2, Census Tract 8004.11 has an unusually high concentration of children and thus, may require consideration under EO 13045.

Alternative A: No Action Alternative Socioeconomics, Environmental Justice and Protection of Children Impacts

Socioeconomics

Under Alternative A, the number of full-time personnel assigned to the RTC would increase by 162 people. It is likely that a number of these additional personnel already travel to the RTC periodically from their residences throughout the Washington, D.C. metropolitan area to conduct their duties, and that few if any would relocate to Prince George's County to be closer to their workplace. Any such relocations that occur would constitute a fraction of the county's population of more than 860,000 people and would be within its capacity to provide housing and public services. Any additional RTC personnel relocating to Prince George's County would not noticeably alter the local or regional demography.

Implementation of the proposed projects would have a positive minor short-term economic impact if local contractors and workers are hired to design and/or build the new facilities and other projects included in the proposed action. This would further have positive multiplier effects on the local economy as contractors' money is spent at restaurants, gas stations, stores, construction material suppliers, hotels, and other nearby businesses. These positive effects would continue as the projects are implemented over a multi-year time frame and as each project continues for periods of several months to several years.

In the context of Prince George's County and the larger Washington, D.C. metropolitan region, however, these effects would likely remain small.

For these reasons, Alternative A would have no adverse and negligible positive socioeconomic impacts.

Environmental Justice

The demographic study area and the individual census tracts constituting it – 8002.06, 8002.08 and 8004.11 – qualify as EJ communities of concern because their percentage of minority residents exceeds 50 percent.

The RTC is an existing facility, first established in 1969. The proposed projects are intended to enhance the RTC and further support its mission of training USSS personnel. The presence of residential areas, particularly those that may have large proportions of minority residents, in proximity to the RTC is an unavoidable condition that has been factored into the planning of the proposed projects.

The projects included in Alternative A would occur entirely within the boundaries of the RTC. Site-specific impacts, such as, noise, emissions from construction vehicles and equipment and the generation of fugitive dust, would remain localized, would occur during normal daytime working hours (e.g., 7:00 a.m. to 5:00 p.m.) and would not be anticipated to extend beyond the boundaries of the RTC. Construction-related vehicles would use major local and regional roads to access the RTC and would not generate additional traffic through nearby residential neighborhoods. The implementation of the proposed projects over a period of several years would further minimize these impacts. Following the completion of the proposed projects, construction activities would cease and the RTC would return to a pre-construction condition. Thus, in the short term, Alternative A would not disproportionately affect EJ communities of concern in the vicinity of the RTC.

Alternative A includes the construction and operation of a number of new tactical and firearms training facilities. The proposed firearms ranges would be enclosed, which would effectively prevent the sound of gunfire from reaching nearby neighborhoods. Although much of the training at the new tactical facilities would be conducted outdoors and could involve the use of firearms, the intensity and duration of each exercise would vary. This would result in considerable variation in the perception of the effects from each exercise (particularly, noise) by receptors outside the RTC. In addition, exercises would occur intermittently and it is not expected that exercises would be conducted at all of the new facilities simultaneously. The distance between the proposed tactical facilities and nearby residences, as well as topographic variations and the presence of vegetation, would attenuate much of the noise generated by exercises at the tactical facilities. The location of many of the proposed tactical facilities toward the interior of the RTC would further minimize impacts from noise on nearby residents.

As noted above, the number of full-time personnel assigned to the RTC would increase by 162 people under Alternative A. Additional traffic generated by the increase in personnel at the RTC would be minimized by the establishment of parking ratios in accordance with NCPC policies for federal workplaces. In addition, the number of trainees accommodated by the RTC would be somewhat reduced, thereby resulting in a corresponding reduction in vehicle trips to the center. The majority of traffic traveling to and from the RTC would use major highways and surface roads, and would not generate additional traffic through nearby neighborhoods.

For these reasons, Alternative A would not have disproportionate long-term impacts on EJ Communities of Concern near the RTC.

Protection of Children

The projects included in Alternative A would occur entirely within the boundaries of the RTC. Construction-related impacts would be confined to the boundaries of the RTC and would cease upon the completion of the proposed projects. The large size of Tract 8004.11, combined with the lack of neighborhoods or other areas within the tract where concentrations of children could be present in proximity to the RTC, would ensure that operations at the RTC would have no effects on children. Therefore, Alternative A would have no potential to disproportionately affect children in the short- or long-term.

Alternative B: Proposed Action Alternative Socioeconomics, Environmental Justice and Protection of Children Impacts

Alternative B would result in the same impacts on socioeconomics, environmental justice, and protection of children as Alternative A described above due to the similarity in activities and facilities.

Historic and Archaeological Resources

Historic Resources

The USSS has not documented any historic buildings or structures on the RTC site.

The B-W Parkway is an historic district listed in the National Register of Historic Places (NRHP) that lies to the west of the RTC. This nineteen-mile federally owned and maintained section of parkway extends from the District of Columbia through Prince George's and Howard Counties in Maryland, ending at the Baltimore City line. The roadway includes 22 bridges and is buffered by a mix of natural forest and cultivated native vegetation. The terrain is composed of generally forested, gentle hills with modest vistas (NPS 1991).

Archaeological Resources

No known prehistoric resources exist within or adjacent to the RTC site. The adopted Historic Sites and Districts Plan for Prince George's County does not indicate any recognized or potential archaeological sites within the RTC or Planning District 64 in which the site is located.

Alternative A: No Action Alternative Historic and Archaeological Resources Impacts

Historic Resources

Because no known historic buildings or structures are located on the RTC site, Alternative A would have no direct impacts on historic buildings or structures at the RTC campus.

Alternative A proposes no new development adjacent to the B-W Parkway. New structures on the campus would be similar in scale and height to existing buildings. Although the B-W Parkway is adjacent to the RTC, the vegetative buffer of the parkway and the RTC, as well as the consistent building height, would minimize views of new development from the B-W Parkway.

Through the historic preservation review process required under Section 106 of the National Historic Preservation Act, and in consultation with the Maryland Historical Trust, the USSS determined that no adverse effect to historic resources would occur as a result of the 2012 RTC Master Plan. Due to the B-W Parkway's listing in the NRHP, the USSS has coordinated with the NPS during previous Master Plan updates and agreed to develop an official re-vegetation plan to address visibility issues from the Parkway.

This interagency coordination effort continues in perpetuity. As a result, Alternative A would result in negligible impacts on historic resources.

Archaeological Resources

As described above, the RTC has no known archaeological resources at or around the campus, and has little potential for existing archaeological resources due to previous disturbance (Appendix B). Through the historic preservation review process as required under Section 106 of the National Historic Preservation Act, and in consultation with the MHT, the USSS determined that no adverse effect to archaeological resources would occur as a result of the 2012 RTC Master Plan. As a result, Alternative A would result in no impacts on archaeological resources.

Alternative B: Proposed Action Alternative Historic and Archaeological Resources Impacts

Alternative B would result in the same impacts on historic and archaeological resources as under Alternative A. Through the historic preservation review process as required under Section 106 of the National Historic Preservation Act, and in consultation with the Maryland Historical Trust, the USSS determined that no adverse effect to historic or archaeological resources would occur as a result of the 2017 RTC Master Plan Update (Appendix B).

Roadways and Traffic Patterns

RTC Traffic Impact Study and Transportation Management Guidelines (TIS/TMG), begun in 2009 and completed in June 2012, documented traffic conditions in the vicinity of the RTC. At that time the USSS used this data to determine that no significant impact would occur on roadways and traffic patterns. The USSS, in consultation with M-NCPPC, determined that the 2012 TIS is still a valid description of existing conditions because few changes to the background conditions have occurred (Appendix C). As a part of that study, traffic counts were undertaken at area intersections. The following discussion of roadways and traffic patterns is based on the TIS/TMG. The TIS/TMG was conducted in accordance with the M-NCPPC and Maryland State Highway Administration guidelines for traffic impact studies.

Study Area

As defined in the TIS/TMG, the study area for the traffic analysis includes the following intersections:

- B-W Parkway Southbound Ramps/Powder Mill Road
- B-W Parkway Northbound Ramps/Powder Mill Road
- Powder Mill Road/Soil Conservation Road
- Powder Mill Road/Site Access
- Powder Mill Road/Springfield Road
- Powder Mill/Laurel-Bowie Road (MD 197), (this is not a critical intersection since less than 20 percent of the traffic would affect this intersection)

Public Road Network

As it passes the RTC, the B-W Parkway is a four-lane, limited access, divided roadway with a posted speed limit of 55 miles per hour. The B-W Parkway intersects with Powder Mill Road approximately 1,775 feet west of the main RTC entrance on Powder Mill Road. The Parkway is a north-south roadway that extends northward from Washington, DC to the City of Baltimore, and abuts the western border of the RTC. The roadway in the vicinity of the RTC is maintained by NPS.

Powder Mill Road borders the RTC to the south. It is a two-lane undivided federal roadway with a posted speed limit of 40 miles per hour as it passes the RTC. Powder Mill Road runs east-west from MD Route 650 (New Hampshire Avenue in Montgomery County) to MD Route 197 (Laurel Bowie Road in Prince George's County). It provides direct access to the site from an entrance between Soil Conservation and Springfield Roads. There are service road entrances at two other points on Powder Mill Road but these access points are currently closed.

Laurel Bowie Road (MD 197) is a two-lane northwest-southeast roadway that extends southeast from MD 198 in Laurel to US-301 in Bowie. The posted speed limit is 45 mph and the intersection with Powder Mill Road is controlled by a traffic signal. The roadway is owned and maintained by the state.

Soil Conservation Road connects with Powder Mill Road approximately 850 feet west of the RTC entrance. Soil Conservation Road is a north-south roadway extending from MD Route 193 to MD Route 212 and has a posted speed limit of 40 mph. In the site vicinity, it is a two-lane, undivided roadway. The Soil Conservation Road/Powder Mill Road intersection is controlled by a traffic signal. The roadway is owned by the federal government.

Springfield Road is a northwest-southeast two-lane local roadway that extends from Powder Mill Road southeast to Lanham-Severn Road (MD 564). Springfield Road has a posted speed limit of 30 mph and is stop sign controlled at Powder Mill Road. Springfield Road intersects with Powder Mill Road approximately 1000 feet east of the RTC entrance. This roadway is a connector road from MD 564 to the south and is owned by the county.

Existing Levels of Service

The specific criterion typically used to assess a roadway system is Level of Service (LOS). LOS, a traditional traffic circulation and roadway engineering measure, is a qualitative letter-grade (on a scale of A to F) given to street systems. For intersections, LOS is based on the average delay each driver experiences while passing through the intersection (compared to the situation if the intersection did not exist). The M-NCPPC level of service standard in this area is LOS D for signalized intersections and a delay of 50 seconds or less (LOS E) for unsignalized intersections.

Existing peak hour LOS were calculated for key intersections based on the existing lane usage and traffic controls, the existing traffic volumes, the Highway Capacity Manual (HCM) method for unsignalized intersections, and the Critical Lane methodology for signalized intersections in accordance with M-NCPPC guidelines. Peak traffic counts were recorded for AM and PM vehicular traffic on a typical weekday from 6:30 to 9:30 AM and from 3:00 to 7:00 PM. A traffic count was conducted from 6:00 AM to 7:00 PM at the intersection of Powder Mill Road and the site access point.

As indicated in Table 5, under existing conditions, there are five study intersections operating below LOS standard. The unsignalized intersection of Powder Mill Road/Southbound B-W Parkway off-ramp is currently operating at LOS F during both the AM and PM peak hours when travelling southbound. The unsignalized intersection of Powder Mill Road/Northbound B-W Parkway on-ramp is also operating at LOS F during the AM and PM peak hours when travelling northbound. The signalized Powder Mill Road/Laurel Bowie Road intersection overall operates at an LOS F during the AM peak hour.

Table 5: LOS at Intersections in RTC Vicinity (Existing Conditions)

	Operating Condition	Approach	Existing LOS (AM)	Existing LOS (PM)
B-W Parkway SB Off-ramp/ Powder Mill Road	Unsignalized	Southbound (SB) Westbound Lane (WBL)	F A	F A
B-W Parkway SB On-ramp/ Powder Mill Road	Unsignalized	Northbound (NB) Eastbound Lane (EBL)	F B	F D
Soil Conservation Road/ Powder Mill Road	Signalized	Overall	A	D
RTC Driveway/ Powder Mill Road	Unsignalized	SB EBL	B B	B A
Springfield Road/ Powder Mill Road	Unsignalized	NB WBL	C A	B A
Powder Mill Road/ Laurel-Bowie Road	Signalized	Overall	F	D

NOTE: LOS, a traditional traffic circulation and roadway engineering measure, is a qualitative letter-grade (on a scale of A to F) given to street systems Minimum adequacy provided by LOS D for signalized intersections and LOS E (no greater than 50 seconds of delay) for unsignalized intersections; intersections operating below this standard are highlighted in bold above.

Source: Wells + Associates 2012

The arrival of employees and trainees make up the two primary components of peak hour traffic at the RTC. Approximately 29 percent of trainees, who comprise an estimated 30 percent of the campus population, arrive via vanpool. Including employees and trainees, an estimated 10 percent of vehicle trips to the RTC are made by non-single-occupancy vehicles (SOV).

Internal Roadways

An internal roadway network serves traffic inside the RTC boundaries. The internal network serves three purposes: it provides an internal vehicular circulation route; it serves as a physical training venue for biking, running, and other physical training; and it serves as a tactical training venue for trainings such as protective driver training and public bikeway simulations. A perimeter road encircles the entire campus with the exception of the easternmost portion of the site.

Three entrance driveways are located along Powder Mill Road. Of the three driveways, the middle driveway, located between Soil Conservation Road and Springfield Road, serves as the main entrance and is the only one open and available for use by employees, visitors, and delivery vehicles to the RTC.

Roadway and Traffic Pattern Impacts

This section evaluates the transportation impacts that would likely result from the implementation of the 2012 RTC Master Plan and the proposed 2017 RTC Master Plan Update. Transportation impacts are based on the 2012 TIS/TMG. The projected traffic volumes were forecasted based on future background traffic volumes, proposed parking conditions, future site-generated trips, and future land use and traffic controls.

Alternative A: No Action Alternative Roadway and Traffic Pattern Impacts

Internal Roadway Network

Internal roadway improvements proposed as part of the 2012 RTC Master Plan include completion of the campus loop road in the eastern portion of the site, and realignment of the roadways and parking area at the entry and proposed Administrative Core. The proposed roadway additions total 1.55 miles throughout the RTC including approximately 0.6 miles for the loop road addition, 0.6 miles of new roads around the administration area, and 0.31 miles of new miscellaneous internal roads.

The loop road currently does not reach the eastern most area of the site, and does not provide a continuous loop around the campus. Currently, vehicle circulation patterns are often interrupted by road closures due to frequent tactical training exercises held on or near the interior campus road system. The main functions of the loop road include interior circulation, exercise circuit for biking, running, and other physical activities. The current dead-end condition of the loop road in the eastern portion of the site causes conflicts and delays between functions. Completing the loop would provide greater circulation flexibility when the exercises are underway. The proposed action would provide safer alternate circulation paths to keep vehicular traffic out of temporarily designated training areas. The internal roadway improvements of the loop road would make a more effective exercise circuit once completed. The completion of the loop would enable access to the undeveloped eastern portion of the site and provide greater circulation around the campus while reducing chances of conflicts and/or delays caused training exercises.

Realignment of the roadways within the proposed Administrative Core would also improve circulation patterns, as well as reinforce the land use pattern within the Core. Overall, circulation patterns within the RTC would be improved by the completion of the loop road and the realignment of existing roadways.

Area Intersections

The implementation of the 2012 RTC Master Plan is expected to increase the student and staff populations, from approximately 538 to 660. In addition, the No Action Alternative would relocate the main entrance to the RTC on Powder Mill Road to align directly across Springfield Road. Based on the existing peak traffic volumes, it is projected that the increase in daily population at the RTC would generate 194 new AM peak hour trips and 148 new PM peak hour trips.

The key intersections that were analyzed to determine existing traffic conditions in the vicinity of the RTC were also analyzed for potential traffic impacts due to implementation of the 2012 RTC Master Plan. Future peak hour LOS for each of the intersections was calculated for conditions with No Action Alternative (see Table 6). Calculations were made assuming existing lane usage and traffic control and based on background traffic forecasts for the year 2021.

As indicated in Table 6, the intersections of B-W Parkway Southbound Off-Ramp/Powder Mill Road, B-W Parkway Northbound On-Ramp /Powder Mill Road, and Powder Mill Road/Laurel-Bowie Road would exceed the M-NCPPC standard in the AM and PM peak hours under the No Action Alternative. In addition, the intersection of Soil Conservation Road/Powder Mill Road would not meet M-NCPPC standards during the PM peak hour, as under existing conditions. Under the No Action Alternative, the existing site access on Powder Mill Road would be closed and re-aligned with Springfield Road. The southbound site access would be widened to provide two outbound lanes and one inbound lane. The outbound lanes would include a shared thru-left and an exclusive right turn lane. With the relocated entrance, the intersection of

Powder Mill Road/Springfield Road/Site Access would operate with a delay that would exceed M-NCPPC Standards during both the AM and PM peak hours.

Overall, long-term adverse impacts on roadways and traffic patterns are anticipated to be minor. Beneficial impacts would occur to the internal roadway network due to the completion of the loop road.

Table 6: LOS at Intersections in RTC Vicinity under Existing Conditions, Alternatives A and B

Intersection	Operating Condition	Approach	Existing Conditions (LOS AM/PM)	Implementation of Alts A and B (LOS AM/PM)
B-W Parkway SB Off-ramp/Powder Mill Road	Unsignalized	SB WBL	F/F** A/A	F/F A/B
B-W Parkway NB Off-ramp/Powder Mill Road	Unsignalized	NB EBL	F/F B/D	F/F B/F
Soil Conservation Road/ Powder Mill Road	Signalized	Overall	A/D	B/F
RTC Driveway/ Powder Mill Road	Unsignalized	SB EBL	B/B B/A	
Springfield Road/ Powder Mill Road	Unsignalized	NB WBL EB SB	C/B A/A	F/E A/A B/A C/B
Powder Mill Road/ Laurel-Bowie Road	Signalized	Overall	F/D	F/F

Note: LOS, a traditional traffic circulation and roadway engineering measure, is a qualitative letter-grade (on a scale of A to F) given to street systems Minimum adequacy provided by LOS D for signalized intersections and LOS E (greater than 50 second delay) for unsignalized intersections; intersections operating below this standard are highlighted in bold above.

***A slash between LOS ratings represents a separation between the AM and the PM LOS conditions (e.g. A/F indicates an AM LOS A and a PM LOS F).*

Source: Wells + Associates 2012

Mitigation

- The intersection of Powder Mill Road/Springfield Road/ Site access would likely require signalization to meet the M-NCPPC Prince George's County standards. When funding becomes available for the design and construction of the new entrance, USSS would update the traffic study, as needed, and coordinate the signalization with the appropriate government agencies. At a minimum, a Signal Warrant Analysis would be required during the planning and design of the site access relocation.
- Measures outlined in the 2017 TMP would be implemented to the greatest extent possible to encourage ride sharing and reduce the number of vehicle trips and thus to minimize transportation related impacts. Such mitigations measures could include facilitating carpool/vanpool matching, internal communications, expansion of vanpool stops to include Metrorail or Maryland Area Regional Commuter stations, and improving bicycle infrastructure by replacing and providing additional bike racks, lockers, and showers.

- The RTC Master Plan would be implemented in phases over a 10-15 year period. The TIS and TMP would be updated at key phases.

Alternative B: Proposed Action Alternative Roadway and Traffic Pattern Impacts

Internal Roadway Network

Overall, Alternative B would include similar internal roadway improvements as Alternative A. Internal roadway improvements proposed as part of the 2017 RTC Master Plan Update include completion of the campus loop road in the eastern portion of the site, and realignment of the roadways and parking area at the entry and proposed Administrative Core. The proposed roadway additions total approximately 1.5 miles throughout the RTC including approximately 0.6 miles for the loop road addition, 0.8 miles of new roads around the administration area, and 0.3 miles of new miscellaneous internal roads. The loop roads called for under Alternatives A and B are similar in length and configuration.

Under Alternative B, the realignment of the roadway within the proposed Administrative Core would also improve circulation patterns, as well as reinforce the land use pattern within the Core. However, the configuration of the roadway would respond to the proposed building placement and parking location. Overall, circulation patterns within the RTC would improve due to the completion of the loop road and the realignment of existing roadways.

Area Intersections

The implementation of the 2017 Master Plan is expected to result in an increase of the student and staff populations, from approximately 538 to 700. In addition, the Proposed Action Alternative would relocate the main entrance to the RTC on Powder Mill Road to align directly across Springfield Road.

Although the 2012 RTC Master Plan anticipated a total population of 660 and the 2017 RTC Master Plan Update anticipates a total population of 700, the USSS did not undertake a new transportation impact study because the background conditions have not changed substantially and the anticipated population would only increase by approximately 40 people. Instead, the USSS, in consultation with M-NCPPC staff, determined that 2012 TIS would also describe the overall transportation impacts of the 2017 Master Plan. As a result, the conditions described under Alternative A would also apply to Alternative B. Based on the existing peak traffic volumes, the 2012 transportation impact study projected that the 2012 increase in daily population at the RTC would generate 194 new AM peak hour trips and 148 new PM peak hour trips. The intersections in the vicinity of the project would have the same LOS as those under Alternative A.

The USSS has prepared a TMP for the RTC. The RTC has committed to increase the percentage of non-SOV trips by employees and trainees to 14 percent through the continued use of vanpools by trainees, who would make up the anticipated increase to the daytime population at RTC. Additionally, the implementation and increased use of traffic demand management strategies could further increase the percentage of non-SOV trips up to a level of 18 percent.

Overall, long-term adverse impacts on roadways and traffic patterns are anticipated to be minor. Beneficial impacts would occur to the internal roadway network due to the completion of the loop road.

The RTC Transportation Management Guidelines consists of a number of strategies that could reduce peak hour SOV trips and increase carpools and transit trips to support community and national efforts to reduce traffic congestion and emissions.

Mitigation

- The intersection of Powder Mill Road/Springfield Road/ Site access would likely require signalization to meet the M-NCPPC Prince George's County standards. When funding becomes available for the design and construction of the new entrance, USSS would update the traffic study, as needed, and coordinate the signalization with the appropriate government agencies. At a minimum, a Signal Warrant Analysis would be required during the planning and design of the site access relocation.
- Measures outlined in the 2017 TMP would be implemented to the greatest extent possible to encourage ride sharing and reduce the number of vehicle trips and thus to minimize transportation related impacts. Such mitigations measures could include facilitating carpool/vanpool matching, internal communications, expansion of vanpool stops to include Metrorail or Maryland Area Regional Commuter stations, and improving bicycle infrastructure by replacing and providing additional bike racks, lockers, and showers.
- The 2017 RTC Master Plan Update would be implemented in phases over a 10-15 year period. The TIS and TMP would be updated at key phases.

Parking

The RTC is currently served by approximately 791 on-site parking spaces. Parking is provided within several at-grade parking lots near existing buildings. Of the 791 spaces, approximately 240 are designated for fleet/training vehicles, while 551 are used for employees and visitors.

Alternative A: No Action Alternative Parking Impacts

Under the No Action Alternative, a new parking structure is proposed in the Administrative Precinct. As a result, there would be a total of 1,038 parking spaces on the campus. Of this total, 441 spaces would be dedicated to fleet/training vehicles, 440 spaces would be dedicated to employees, and 157 spaces would be dedicated to visitors. The high proportion of visitor parking spaces is due to the RTC's function as a training facility. The ratio of employee parking spaces to employees would be 1:1.5, thereby meeting the NCPC goal.

The location of the parking garage within the Administrative Core would best serve the primary administrative and classroom facilities on campus. The proposed parking structure would efficiently meet the increased parking demand that accompanies the expansion of campus programs and population, while minimizing the amount of land needed to accommodate parking. In addition, the parking structure would serve an important training function on the campus, and at times spaces might not be available to employees and visitors. Overall, long-term impacts to the parking supply are anticipated to be negligible.

Alternative B: Proposed Action Alternative Parking Impacts

Under the Proposed Action Alternative, a new two-level 350 space parking structure is proposed in the Administrative Precinct. As a result, there would be a total of 1,141 parking spaces on the campus. Of this total, 360 spaces would be dedicated to fleet/training vehicles, 307 spaces would be dedicated to employees, and 474 spaces would be dedicated to visitors. The high proportion of visitor parking spaces is due to the RTC's function as a training facility. The ratio of employee parking spaces to employees would be 1:1.5, thereby meeting the NCPC goal.

Similar to Alternative A, the location of the parking garage within the Administrative Precinct would best serve the primary administrative and classroom facilities on campus and meet the needs of the USSS. Overall, long-term impacts on the parking supply are anticipated to be negligible.

Public Transit

Bus Routes

Washington Metropolitan Area Transit Authority Metrobus

The Washington Metropolitan Area Transit Authority's (WMATA) Metrobus service operates two bus lines in the vicinity of the RTC: the 87 Laurel Express and B30 Greenbelt-BWI Thurgood Marshall Airport Express. Buses on the 87 line operate Monday through Friday and travel between the Greenbelt Metrorail station and central Laurel, Maryland between approximately 6:00 a.m. and 9:00 a.m., and between the New Carrollton Metrorail station and central Laurel from approximately 4:00 p.m. to 7:45 p.m. The 87 line stops near the Laurel station along the MARC Train Camden line (see the "MARC Train" sub-section below). The nearest stop to the RTC for the 87 line is approximately 1 mile west of the RTC along Powder Mill Road.

The B30 line operates seven days a week between Greenbelt Station and BWI-Thurgood Marshall Airport, between approximately 6:10 a.m. and 10:40 p.m. Monday through Friday and 8:45 a.m. through 10:35 p.m. on weekends. The B30 travels a portion of the BW Parkway adjacent to the RTC but does not make stops in the vicinity of the RTC.

Prince George's County

No bus stops maintained by Prince George's County's TheBus system are located at or in the vicinity of the RTC. No bus lines operated by the system travel within a 2-mile radius of the RTC.

Metrorail

In a direct line, the Greenbelt station for WMATA's Metrorail system is located approximately 4 miles southwest of the RTC. Greenbelt is the last station at the northern end of Metrorail's Green and Yellow lines. The station is primarily served by the Green line beginning at 5:00 a.m. Monday through Friday and 7:00 a.m. on weekends. Last trains leave the station daily at 11:30 p.m. Greenbelt is also served by the Yellow line during peak rush hours (i.e., 6:30 a.m. to 9 a.m. and 3:30 p.m. to 6:00 p.m.) Monday through Friday.

The New Carrollton Metrorail station is located approximately 6 miles in a direct line from the RTC. New Carrollton is the last station at the western end of Metrorail's Orange line. As noted above, New Carrollton is served by Metrobus's 87 line during the evening rush hour.

The Greenbelt and New Carrollton stations averaged 6,991 and 5,802 passenger boardings, respectively, on weekdays in May 2016 (the most recent month and year for which average boardings are available) (WMATA 2016).

MARC Train

MARC is a commuter rail system operated by the Maryland Transit Administration (MTA). Stations closest to the RTC are Bowie State, served by the Penn line approximately 4 miles to the southeast and the Laurel and Muirkirk stations along the Camden line about 4.5 and 3 miles to the north and northwest, respectively. The Penn line runs between Union Station in Washington, D.C. and Perryville, Maryland approximately 34

miles northeast of downtown Baltimore. The Camden line runs between Union Station and Camden Station in Baltimore.

The Penn line operates seven days a week from approximately 6:00 a.m. to 11:00 p.m. Monday through Friday, 7:00 a.m. to 10:00 p.m. on Saturday and 9:00 a.m. to midnight on Sunday. The Camden line operates on weekdays only from approximately 5:00 a.m. to 9:00 a.m. and 3:30 p.m. to 9:00 p.m., depending on direction of travel.

The average estimated weekday ridership on MARC's Penn line in November 2016 was 22,617 and 4,256 on the Camden line (MD DIT 2017). Ridership figures are indicative of one trip per passenger in a single direction.

Alternative A: No Action Alternative Public Transit Impacts

Bus Routes

WMATA Metrobus

Alternative A would have no effect on WMATA Metrobus line B30, as it does not service the RTC or nearby stops.

The implementation of Alternative A would not require re-routings or otherwise cause disruptions or delays to bus service, nor would it require the temporary relocation or closing of the Powder Mill Road bus stop or any other stops in the vicinity of the RTC. Thus, Alternative A would have no short-term impacts on WMATA Metrobus service in the vicinity of the RTC.

Under Alternative A, the number of personnel assigned to the RTC would increase by 40 people. Due to the distance of the nearest bus stop from the RTC, the infrequency of buses on the 87 line making that stop and the duration of a trip by bus between the Powder Mill Road bus stop and access points to connecting modes of transit such as the New Carrollton and Greenbelt Metrorail stations and the Laurel MARC Train station, it is likely that few if any of the additional personnel would use the 87 line to access the RTC. Additional riders, if any, on the 87 line generated by the implementation of Alternative A would remain within the ridership capacity of that line. Therefore, Alternative A would have no or negligible long-term impacts on WMATA Metrobus service.

Prince George's County

Alternative A would have no short-term or long-term impacts on Prince George's County's TheBus system, as no stops maintained by the system are located at or near the RTC and no buses operated by the system service the RTC or its vicinity.

Metrorail

Alternative A does not include activities that would involve construction-related alterations, closings or reroutings of Metrorail stations, trains or tracks. Thus, Alternative A would have no potential to result in short-term impacts on Metrorail service or resources.

It is likely that increases in personnel assigned to the RTC included in Alternative A would result in no or barely noticeable increases in ridership on Metrorail's Green, Yellow or Orange lines, as transit connections to the RTC from the Greenbelt and New Carrollton stations are indirect and relatively infrequent. Any increases in Metrorail ridership potentially resulting from increases in personnel assigned

to the RTC would be expected to remain well within the system's passenger capacity. Therefore, Alternative A would have no or negligible long-term impacts on Metrorail service.

MARC Train

Alternative A does not include activities that would involve construction-related alterations, closings or reroutings of MARC stations, trains or tracks. Thus, Alternative A would have no potential to result in short-term impacts on MARC Train service or resources.

It is likely that increases in personnel assigned to the RTC included in Alternative A would result in no or barely noticeable increases in ridership on MARC Train's Camden and Penn lines, as transit connections to the RTC from the Bowie State, Muirkirk, and Laurel stations are indirect and relatively infrequent. Any increases in MARC Train ridership potentially resulting from increases in personnel assigned to the RTC would remain well within the system's passenger capacity. Therefore, impacts on MARC Train service resulting from the implementation of Alternative A would be nonexistent or negligible.

Alternative B: Proposed Action Alternative Public Transit Impacts

Because the number of employees and visitors under Alternative B is only 40 more than under Alternative A, Alternative B would have similar impacts on public transit as described under Alternative A.

Topography, Drainage, and Soils

The 493-acre RTC campus is located within the Anacostia River watershed and the Upper Anacostia River subwatershed (Hydrologic Unit Code 12: 020700100203). Two tributaries traverse the property from Beaverdam Creek forming the two primary drainage systems: western and eastern. The western system drains approximately 75 percent of the RTC and forms the approximately nine-acre pond on the western portion of the property. The eastern tributary system drains the remaining 25 percent of the site via several first order stream segments before draining into the main stem of Beaverdam Creek. It is dammed with an earthen berm creating an approximately three-acre pond in the southeastern portion of the RTC. First, second, and third order stream segments are present within the RTC.

Elevations on the RTC range from approximately 111 feet above mean sea level (amsl) at the water surface of the ponds to 197 feet amsl at the northwest corner of the property. With the exclusion of one steeper slope (15-25 percent) in the northern portion of the RTC property, the topography is gentle to moderate, ranging from 0-8 percent with a general drainage gradient to the south. No unique or distinctive topographic features have been documented at the RTC.

Soil mapping units on the RTC property were identified by using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service Web Soil Survey. Figure 7 identifies soil types on the site as well as associated slopes. The Evesboro-Downer complex, Galestown-Urban Land complex, Christiana series, and Russett-Christian complex are widespread across the RTC. In some areas of Prince George's County, the Christiana series soils are associated with development restrictions for building foundations due to instability and high shrink-swell potential. Russett soils are rated somewhat to very limited for building site development due to high plasticity and a shallow depth to the saturated zone. Soils in the Elkton series, located along the western edge of the larger pond, are generally poorly drained, while soils in the Zekiah series, which border other wetland areas, are prone to flooding. Both of these soil types also present potential development restrictions. Both the Christiana and Zekiah series soils are rated high for potential erosion. Several other minor soils are listed as having limiting factors for development or high potential for erosion, but in total make up less than five percent of the total site.

Soil sampling in the central portion of the site, which is currently undeveloped, was conducted in May 2016. Below a three- to nine-inch layer of topsoil, the first stratum of soils consisted primarily of clayey or silty sands, poorly graded sands, with some fine sands. The second stratum of soils consisted primarily of lean clay with varying amounts of coarse sand. Soils also contained varying amounts of elastic silt and silty lean clay. No fill was encountered, although some may be present at other boring locations.

Soil sampling was completed around the Merletti Building in April of 2009. Three of 24 samples indicated lead levels exceeding U.S. Environmental Protection (EPA) standards. This contamination is likely due to the prior use of the site as a skeet shooting range.

Alternative A: No Action Alternative Topography, Drainage, and Soil Impacts

Topography

Site preparation activities associated with each project under Alternative A, such as grading and leveling, the installation of utilities, and the construction of sidewalks and parking areas, would alter the topography of each project site. The extent of such alterations would vary on each project site but would remain localized, generally involving the alteration of less than 10 acres, and would not be substantial within the context of the RTC's gentle to moderate topography. No unique or distinctive topographic features would be altered or lost as a result of the proposed projects under Alternative A, as no such features have been documented at or in the vicinity of the RTC. Thus, short-term and long-term impacts on overall topography resulting from Alternative A would be minor.

Drainage

Drainage patterns following the implementation of Alternative A would remain similar to those that currently exist at the RTC. It is likely that the implementation of the proposed projects would result in the alteration of drainage patterns within the vicinity of each site. However, such changes would remain highly localized and would not be substantial enough to collectively alter site-wide drainage patterns at the RTC or within the context of the surrounding region. Therefore, short-term and long-term impacts on drainage resulting from Alternative A would be negligible.

Soils

Construction activities such as grading, excavation, and paving would result in the potential for soil compaction and erosion. Soil compaction generally eliminates the natural permeability of the soil thereby altering both groundwater recharge potential and surface/sheet flow. Vegetative cover would most likely be removed from soils during construction; however, soils remaining exposed following the completion of construction activities would be re-vegetated, eliminating the potential for further erosion. The implementation of the proposed projects over a period of several years would minimize the quantity of soils exposed on the RTC at any given time. Adherence to the mitigation measures described below would ensure that short-term adverse impacts on soils would remain minor.

The USSS would conduct geotechnical studies as part of project planning and design to determine the suitability of soils on the project sites to support the construction of the proposed facilities. As necessary, clean fill soils with suitable characteristics would be imported to the sites to support the proposed projects. Soils excavated from the project sites would also be reused to the extent practicable, while soils not suitable for reuse would be transported off-site to a permitted disposal facility.

Soils in the vicinity of the Merletti Building would require sampling to assess concentrations of lead levels prior to the construction of the proposed addition to that facility. If lead concentrations are determined to

exceed applicable regulatory thresholds, soils underlying that project site would be remediated in accordance with accepted industry practices, to include removal from the RTC and disposal at a permitted off-site facility.

For these reasons, long-term impacts on soils resulting from Alternative A would be minor, with some beneficial impacts resulting from the removal of lead-contaminated soils near the Merletti Building.

Mitigation

- Appropriate BMPs would be implemented during clearing, grading, excavation, and construction activities to minimize potential erosion and sedimentation. A contamination monitoring and mitigation program would be implemented during the soil excavation and transport process.
- An erosion and sediment control plan would be implemented for each project in accordance with the Maryland Department of the Environment (MDE) regulations.
- To the degree practicable, areas subjected to cut or fill during development of the proposed facilities would be returned to pre-construction grades.
- Avoid soil compaction in design of landscape plans, during construction, and maintenance.
- During construction, heavy equipment would be confined to areas of proposed development.
- Ground permeability would be improved and exposed soils would be re-vegetated in order to reduce surface/sheet flow of stormwater and thus minimize soil erosion.
- As part of the construction of the Merletti addition and adjacent Administration Building, soils would be tested to assess potential lead levels. Contaminated soils would be removed by a State-licensed hazardous waste contractor.

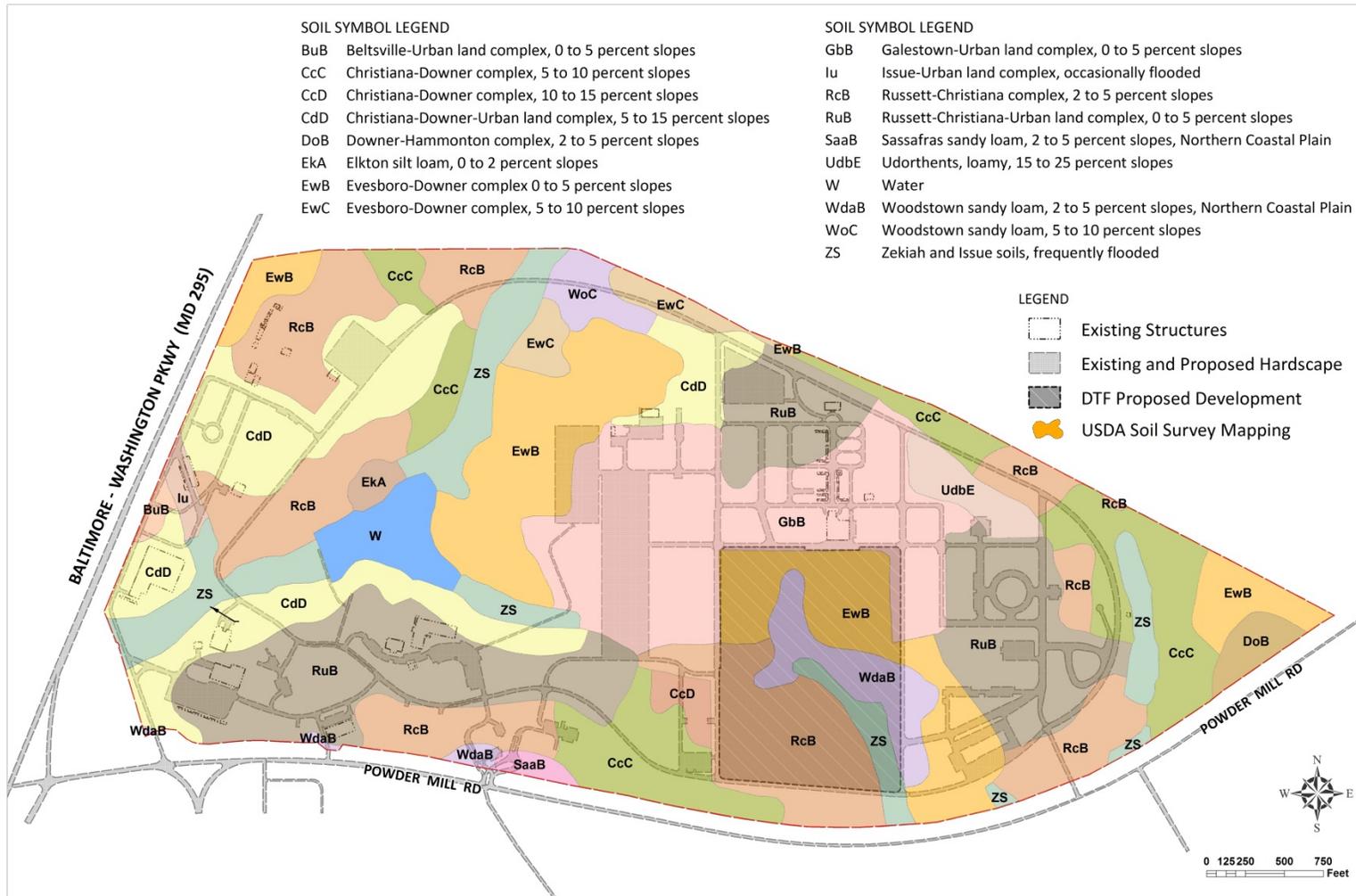


Figure 7: RTC Soil Types, Locations, and Existing and Proposed Hardscape

Source: AECOM 2017

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Alternative B: Proposed Action Alternative Topography, Drainage, and Soil Impacts

The impacts of Alternative B on topography, drainage, and soil would be similar to those identified under Alternative A due to the similar development patterns, with the exception of the DTF. The construction of the DTF under Alternative B would alter topography across the entirety of its 38-acre area. However, as with the smaller projects for Alternatives A and B, the construction of the DTF would result in a generally flat to somewhat sloping site that would be consistent with the overall topographic profile of the RTC. Therefore, Alternative B would result in minor adverse impacts on topography and soils and negligible impacts on drainage.

Mitigation

- Appropriate BMPs would be implemented during clearing, grading, excavation, and construction activities to minimize potential erosion and sedimentation. A contamination monitoring and mitigation program would be implemented during the soil excavation and transport process.
- An erosion and sediment control plan would be implemented for each project in accordance with MDE regulations.
- To the degree practicable, areas subjected to cut or fill during development of the proposed facilities would be returned to pre-construction grades.
- Avoid soil compaction in design of landscape plans, during construction, and maintenance.
- During construction, heavy equipment would be confined to areas of proposed development.
- Ground permeability would be improved and exposed soils would be re-vegetated in order to reduce surface/sheet flow of stormwater and thus minimize soil erosion.
- As part of the construction of the Merletti addition and adjacent Administration Building, soils would be tested to assess potential lead levels. Contaminated soils would be removed by a State-licensed hazardous waste contractor.

Water Resources

Water Quality

Pollution affecting water quality generally comes from two sources: point source and nonpoint source pollution. Point source pollution refers to pollution from a specific point of discharge such as a pipe or a ditch. Examples of point source pollution generated by the RTC include discharges from stormwater management structures and the sanitary sewer system. Nonpoint source pollution is caused by stormwater runoff (rainfall or snowmelt) over a diffuse area without a specific outfall. Examples of nonpoint source pollution generated by the RTC include runoff from parking lots and roads that are not treated by the stormwater management infrastructure and discharge directly into natural water bodies. Pollutants include soil particles, petroleum products, heavy metals, antifreeze, road salt, fertilizer, pesticides, and herbicides.

The RTC is located within the 173-square-mile Anacostia River watershed, which covers portions of the District of Columbia and Prince George's and Montgomery Counties in Maryland. MDE has identified the Anacostia River as impaired by multiple pollutants including nutrients, sediments, fecal bacteria, polychlorinated biphenyls (PCBs) and toxics, and has developed TMDLs that establish the maximum amount of a pollutant that the river can assimilate and still meet state water quality standards. Approved TMDLs in effect for the Anacostia River address fecal bacteria, PCBs, sediment/total suspended solids (TSS), nutrients/biochemical oxygen demand (BOD), and trash.

Maryland classifies surface water bodies according to use classes which describe the suite of specific designated uses or goals for that water body. MDE's Designated Use Class Map identified all MDE regulated streams and open waters within the RTC as Use Class I: Water Contact Recreation, and Protection of Nontidal Warmwater Aquatic Life. The designated uses within Use Class I waters include growth and propagation of fish (not trout) and aquatic life and wildlife, water contact sports, leisure activities involving direct contact with surface water, fishing, agricultural water supply, and industrial water supply. Generally no instream work is permitted in Use I streams from March 1 through June 15, inclusive, during any year to protect spawning fish.

Maryland requires special protections for waters of very high quality (Tier II waters). Development projects that would potentially increase discharges of pollutants to Tier II waters are subject to more restrictive permitting requirements at the county and/or State level.

MDE's Tier II High Quality Waters Map identifies segments of Beaverdam Creek located downstream from the RTC as Tier II waters. The RTC property is located within the Catchments (watershed) of the Beaverdam Creek Tier II waters segments. The typical Tier II riparian buffer width requirement is a minimum 100 feet from intermittent and perennial streams.

Groundwater

Groundwater levels are generally affected by environmental conditions (such as rainfall, temperature, season, and evaporation rates) and surface drainage. Once groundwater percolates through the soil to the point of saturation it moves towards a point of discharge such as a creek, pond or wetland. Based on the topography of the RTC, groundwater generally flows to the south, although topographic alterations and construction of man-made features such as building foundation elements and buried utility lines may cause localized interruptions or disturbances of groundwater flow.

No studies of groundwater conditions have been conducted at the RTC.

The RTC overlies the Lower Patapsco and the Patuxent aquifers. Water from groundwater wells in both aquifers is used for municipal, industrial, agricultural, commercial, and domestic use. Neither aquifer is classified as an EPA sole source aquifer.

Surface Water

A wetland and waters delineation was conducted in 2016 to determine the extent of waters of the United States, including wetlands, on the RTC. The delineation was conducted in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). This wetland and waters delineation should be considered for informational purposes only until it is approved by MDE and/or USACE. The waters of the United States, including wetlands, identified on the RTC during the 2016 delineation are shown on Figure 8 and listed in Table 7.

The waters delineation identified two primary drainage systems. The western drainage system encompasses multiple unnamed tributaries to Beaverdam Creek and adjoining wetlands that drain southwest towards the intersection of Powder Mill Road and MD 295. The eastern drainage system consists of Beaverdam Creek, several unnamed tributaries, and adjoining wetlands. There is a nine-acre in-line pond within the western drainage system and a three-acre in-line pond within the eastern drainage system that receive stormwater runoff from the western and eastern sides of the RTC property,

respectively. Both ponds were created by damming their respective streams. A total of 14.57 acres (8,717 linear feet) of streams and man-made open water ponds were delineated within the RTC property.

Wetlands

The USSS conducted a wetlands study within the RTC property in 2016 that delineated a total of 27.2 acres of wetlands. These wetlands are shown on Figure 8 and listed in Table 7. The majority of wetlands on the RTC are palustrine forested (PFO) wetlands. Generally, PFO wetlands occur along stream channels as well as headwater seeps of certain drainageways at the RTC. Palustrine scrub-shrub (PSS) and palustrine emergent (PEM) wetlands occur along the edges of the two man-made ponds. A number of wetlands on the property are bisected by roads and other development.

In Maryland, both MDE and USACE have jurisdiction over wetlands and waters. Any proposed impacts on jurisdictional wetlands or other waters of the U.S. require approval by USACE and/or MDE. In addition, MDE also regulates a 25-foot buffer around nontidal wetlands and a 100-foot buffer around those resources which are considered by the state to be Nontidal Wetlands of Special State Concern (WSSC). MDNR has identified one linear WSSC on the RTC that is generally located along Beaverdam Creek (Figure 8). MDNR's WSSC mapping is available through MD iMAP (Maryland's Mapping and GIS Data Portal); this mapping is approximate and for guidance purposes. Consultation with MDNR would be necessary to determine the precise extent of WSSC and the associated 100-foot buffer on the RTC property.

Table 7: Wetlands and Waters Delineated within the RTC (2016).

LABEL	FEATURE TYPE	ACRES	LINEAR FT
1	PFO WETLAND	0.192	122
2	PFO WETLAND	0.065	84
3	PFO WETLAND	5.075	1,543
4	PFO WETLAND	0.184	303
5	PFO WETLAND	2.050	449
6	PFO WETLAND	5.443	1594
7	PFO WETLAND	1.062	396
8	PFO WETLAND	0.424	253
9	PFO WETLAND	0.461	250
10	PFO WETLAND	0.454	246
11	PFO WETLAND	2.471	584
12	PFO WETLAND	1.514	558
13	PFO WETLAND	0.642	372

LABEL	FEATURE TYPE	ACRES	LINEAR FT
14	PFO WETLAND	0.603	308
15	PFO WETLAND	0.257	139
16	PFO WETLAND	0.247	236
17	PFO WETLAND	0.173	139
18	PFO WETLAND	0.669	544
19	PFO WETLAND	1.245	335
20	PFO WETLAND	0.024	63
21	PSS WETLAND	0.673	1,427
22	PEM WETLAND	3.307	2,202
OW1	OPEN WATER	9.455	1,000
OW2	OPEN WATER	3.000	659
S1	STREAM	0.824	3,051
S2	STREAM	0.223	714
S3	STREAM	0.071	326
S4	STREAM	0.114	595
S5	STREAM	0.212	847
S6	STREAM	0.031	123
S7	STREAM	0.527	1,091
S8	STREAM	0.075	190
S9	STREAM	0.038	121

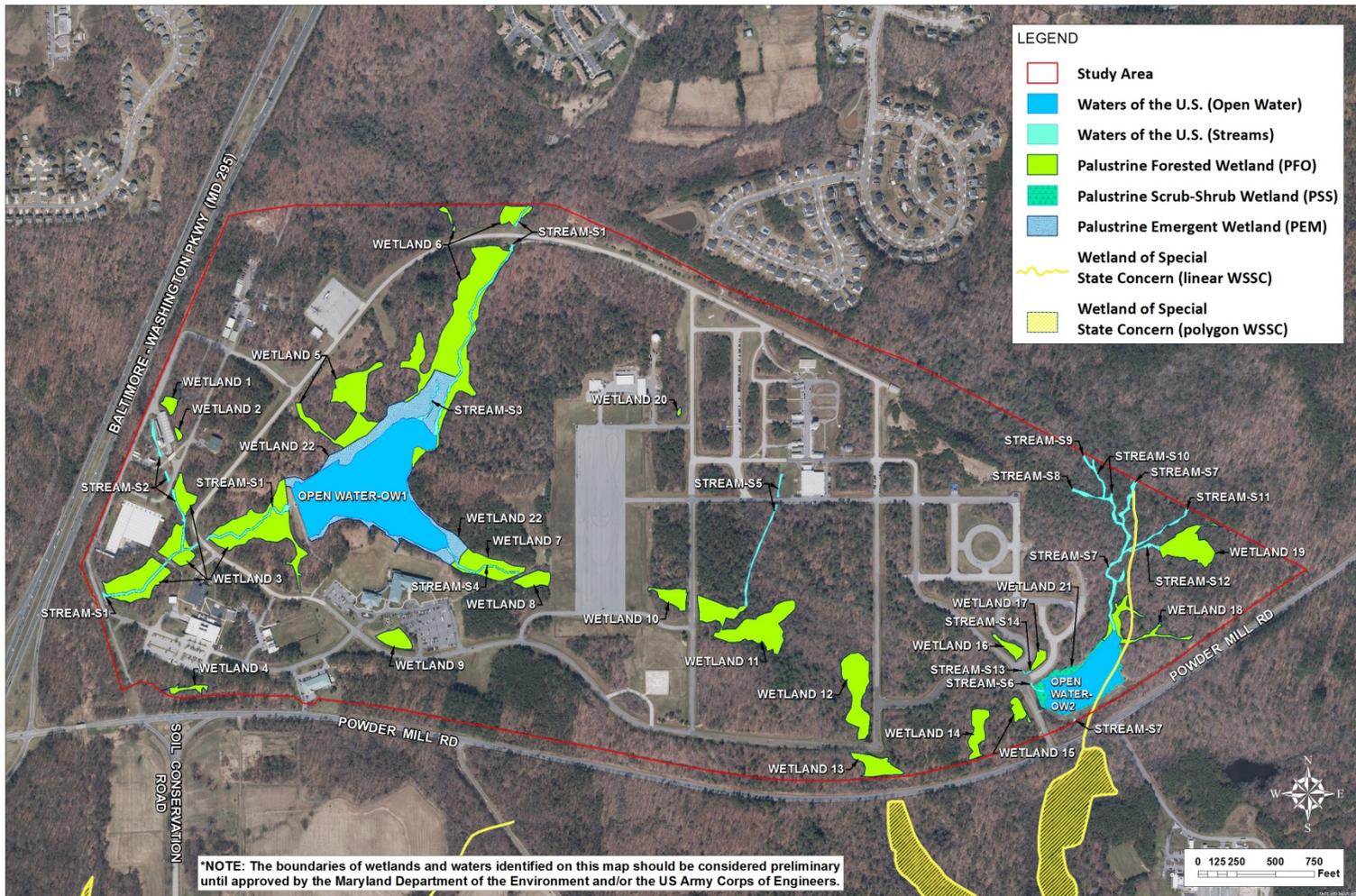


Figure 8: Wetlands and Waters Delineated within the RTC (2016)
 Source: AECOM 2016

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Alternative A: No Action Alternative Water Resources Impacts

Water Quality

Under Alternative A, erosion and sediment control measures would be implemented during the construction of the proposed projects to minimize potential impacts on water quality resulting from the erosion of exposed soils and the sedimentation of downstream watercourses. Enhanced BMPs or additional controls may be required to protect Tier II stream resources during and post construction. In addition, the expanded Tier II riparian buffer would be applied to intermittent and perennial waters on the RTC because the RTC is in a Tier II Catchment and the proposed RTC improvements would require a state 401 Water Quality Certification. The phased implementation of the proposed projects over a period of several years would ensure that soil disturbance and corresponding sedimentation resulting from the proposed projects does not occur simultaneously, further minimizing impacts. Thus, while short-term impacts on water quality resulting from erosion and sedimentation during construction would not be entirely eliminated, they would remain minor.

None of the proposed projects would involve ongoing earth-disturbing activities that would promote soil erosion by wind or water. Similarly, none of the proposed projects would generate pollutants that would contribute to exceedances of TMDLs established for the Anacostia River or its watershed, or cause the degradation of downstream Tier II waters. Following the completion of construction activities, areas of the project sites not built on or otherwise developed would be revegetated or returned to an otherwise permeable condition, thereby eliminating the potential for continued erosion and sedimentation. In accordance with Section 438 of the Energy Independence and Security Act of 2007 (EISA), projects disturbing 5,000 square feet or more of land would incorporate low impact development (LID) measures to the greatest extent technically feasible to maintain the pre-project hydrology of the project site. Adherence to these measures would ensure that long-term impacts on water quality remain negligible.

Groundwater

None of the projects included in Alternative A would involve new or increased withdrawals of groundwater or the discharge of pollutants into groundwater during their construction or operational phase. As necessary, project sites would be dewatered in accordance with accepted industry practices to accommodate the installation of building foundation elements and/or to prevent groundwater infiltration into finished below-grade spaces. The alteration of topography through minor site grading and leveling, and the installation of foundation elements associated with new buildings and structures could result in highly localized disturbances to or diversions of groundwater flow; however, overall groundwater flow across the site would continue to be in a generally southward direction. Although the implementation of the proposed projects would increase the quantity of impervious surface at the RTC, most of the property would remain in a permeable condition. Any corresponding impediments to the infiltration of precipitation and groundwater recharge resulting from an increase in impervious surface would be minimal, particularly in the context of the surrounding area and the adjacent Patuxent Research Refuge. Therefore, Alternative A would have minor short-term impacts and negligible long-term impacts on groundwater.

Surface Water

Alternative A projects would not involve construction or development in, on, or above bodies of surface water at the RTC, nor would they involve the filling, damming, or rechanneling of surface water bodies. Adherence to erosion and sediment control measures during construction and the incorporation of stormwater management and/or LID techniques into the design of the proposed projects would minimize

indirect impacts on bodies of surface water resulting from erosion of exposed soils by wind and water and the corresponding sedimentation of downstream watercourses. The phased implementation of the projects over a period of several years would further minimize short-term impacts from the erosion and sedimentation of soils exposed during construction. None of the proposed projects would involve the discharge of pollutants to bodies of surface water during their operational phase. For these reasons, Alternative A would have minor short-term impacts and negligible long-term impacts on surface water.

Wetlands

Alternative A project sites were selected to avoid direct impacts on wetlands and waters to the extent practicable. As currently proposed, the construction of a small portion of the loop road along the southeast side of the RTC could directly impact wetlands. In addition, the installation of the perimeter fence may cross wetland areas, depending on its final alignment. Additional roadways may lie within or encroach upon the 100-foot WSSC wetlands protection buffer. The Alternative A improvements would require the draining and filling of approximately 0.48 acres of wetlands. The proposed impacts are to Wetlands 14 and 16, as shown on Figure 9 and listed in Table 8.

Table 8: Alternative A impacts on Wetlands within the RTC.

LABEL	FEATURE TYPE	IMPACT TYPE	IMPACT ACRES	IMPACT LINEAR FT
14	PFO WETLAND	PERMANENT	0.23	105
16	PFO WETLAND	PERMANENT	0.25	236

TOTAL PERMANENT STREAM IMPACT	0.00	0
TOTAL PERMANENT WETLAND IMPACT	0.48	341

The proposed impacts on wetlands would require approval through the Joint Federal/State Application process for the alteration of nontidal wetlands in Maryland. Project impacts on wetlands would be avoided and minimized to the extent practicable. Unavoidable impacts would be mitigated for by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state regulatory agencies. Coordination with federal and state regulatory agencies including USACE and MDE would be required to develop a compensatory mitigation strategy to offset impacts on wetlands. Due to the general lack of approved wetland mitigation banks and in-lieu fee sites in Maryland, this project would likely be required to provide permittee-responsible mitigation in which the permittee provides compensatory mitigation through aquatic resource restoration, creation, enhancement and/or preservation. This compensatory mitigation may be provided at or adjacent the impact site or at another location, usually within the same watershed as the permitted impact. The permittee retains responsibility for the implementation and success of the mitigation project.

While long-term impacts on wetlands resulting from the Alternative A would be adverse, these impacts would be minor in the context of the surrounding area, which contains extensive wetlands within the adjacent Patuxent Research Refuge that would remain undisturbed. Adherence to applicable avoidance,

minimization, mitigation, compensation and/or other regulatory requirements would further minimize the short- and long-term impacts on wetlands within the RTC.

Mitigation

- In the design of the individual projects, USSS would seek ways to reduce pollutant loads by identifying potential restoration or retrofit opportunities that could be done in conjunction with new development. This would minimize impacts of the projects and decrease the current pollutant loads within the watershed.
- During the design phase, consult with MDE on individual projects to ensure that Tier II waters in the area are not degraded.
- If localized perched groundwater is encountered during excavation, appropriate dewatering techniques would be implemented consistent with USACE regulations for erosion, sediment control, and stormwater management.
- Appropriate erosion and sediment control measures and stormwater management would be implemented throughout the course of construction and operation of the proposed facilities, consistent with applicable federal, Maryland, and Prince George's County regulations.
- Regulated substances would be stored on an impervious area and away from surface water and storm drains.
- Potential impacts on wetlands or associated buffer would be subject to federal and/or state review and approval in accordance with Section 404 of the Clean Water Act, Maryland Nontidal Wetlands Protection Act, and the Coastal Zone Management Act. USSS would work with appropriate federal and state agencies to obtain proper permits and authorizations for any alterations.
- Project impacts on waters of the U.S., including wetlands, would be mitigated for by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state resource agencies.
- To the greatest extent practicable, roads and parking areas would be routed to minimize their footprint on wetlands, while maintaining vehicular access to the eastern sector of the site for patrol purposes. If road construction through wetlands is unavoidable, mitigation measures would be implemented to minimize adverse impacts. Adequate drainage of the natural surface and groundwater below the roadway would be maintained by either constructing a raised roadway or using culverts and drains to assist water movement. The roadway would also be constructed in such a way that stormwater is able to drain away from wetlands, thereby minimizing an influx of additional water and pollutants. To the extent practicable, disturbance to vegetation would be minimized during construction of the roadway and disturbed areas would be re-vegetated with native vegetation of similar composition and structure as the surrounding vegetation.
- Heavy equipment would be confined to proposed development areas during construction.

Alternative B: Proposed Action Alternative Water Resources Impacts

Water Quality

The impacts on water quality under Alternative B would be the same as those described under Alternative A. Short-term impacts on water quality resulting from erosion and sedimentation during construction would be adverse and minor; long-term impacts on water quality remain negligible.

Groundwater

None of the projects included in Alternative B would involve new or increased withdrawals of groundwater or the discharge of pollutants into groundwater during their construction or operational phase. As necessary, project sites would be dewatered in accordance with accepted industry practices to accommodate the installation of building foundation elements and/or to prevent groundwater infiltration into finished below-grade spaces. The alteration of topography through minor site grading and leveling, and the installation of foundation elements associated with new buildings and structures could result in highly localized disturbances to or diversions of groundwater flow; however, overall groundwater flow across the site would continue to be in a generally southward direction. Although the implementation of the proposed projects would increase the quantity of impervious surface at the RTC, most of the property would remain in a permeable condition. Any corresponding impediments to the infiltration of precipitation and groundwater recharge resulting from an increase in impervious surface would be minimal, particularly in the context of the surrounding area and the adjacent Patuxent Research Refuge. Therefore, Alternative A would have minor short-term impacts and negligible long-term impacts on groundwater.

Surface Water

Construction of the DTF would involve rechanneling, piping, and/or filling what has been identified as an ephemeral stream labeled Stream S-5 on Figure 9. Ephemeral streams are regulated by USACE, but not MDE. If the USACE and MDE determine S-5 is an ephemeral stream, MDE would not regulate S-5 and, therefore, it would not be subject to any Use Class or Tier II waters requirements. However, the proposed impact on stream S-5 would require USACE permit authorization under Section 404 of the Clean Water Act (CWA) and MDE authorization under Section 401 of the CWA. The 0.17 acre (847 linear feet) impact on stream S-5 would be the total surface water impact area required for the implementation of the 2017 RTC Master Plan Update (Table 9), which would be one percent of the total surface water within the RTC.

Unavoidable project impacts on waters of the U.S., including wetlands, would be mitigated for by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state regulatory agencies. Coordination with federal and state regulatory agencies including USACE and MDE would be required to develop a project-wide compensatory mitigation strategy to offset impacts on wetlands and waterways.

Adherence to erosion and sediment control measures during construction and the incorporation of stormwater management and/or LID techniques into the design of the proposed projects would minimize indirect impacts on bodies of surface water resulting from erosion of exposed soils by wind and water and the corresponding sedimentation of downstream watercourses. The phased implementation of the projects over a period of several years would further minimize short-term impacts from the erosion and sedimentation of soils exposed during construction. None of the proposed projects would involve the discharge of pollutants to bodies of surface water during their operational phase. The USSS has initiated coordination with MDE (Appendix A) and would continue to do so throughout implementation of the 2017 RTC Master Plan Update. For these reasons, Alternative B would have minor short-term impacts and negligible long-term impacts on surface water.

Table 9: Alternative B impacts on Wetlands and Waters within the RTC.

LABEL	FEATURE TYPE	IMPACT TYPE	IMPACT ACRES	IMPACT LINEAR FT
S5	STREAM	PERMANENT	0.17	847
11	PFO WETLAND	PERMANENT	2.47	584
12	PFO WETLAND	PERMANENT	1.51	558
14	PFO WETLAND	PERMANENT	0.23	105
16	PFO WETLAND	PERMANENT	0.25	236

TOTAL PERMANENT STREAM IMPACT	0.17	847
TOTAL PERMANENT WETLAND IMPACT	4.46	1,483

Wetlands

To the extent practicable, Alternative B project sites were selected to avoid direct impacts on wetlands that would otherwise result from filling, draining, or other preparation activities that would make a wetland site suitable for development. While changes in groundwater flow and recharge resulting from the alteration of topography, reductions in the infiltration of precipitation from an increase in impervious surface, and the installation of foundation elements associated with the proposed buildings and structures could potentially reduce inputs of water to wetlands, it is anticipated that any such changes would be highly localized and that no substantial reduction of inputs would occur.

As currently proposed, the construction of a small portion of the loop road along the southeast side of the RTC could directly impact wetlands. In addition, the installation of the perimeter fence may cross wetland areas, depending on its final alignment. Additional roadways may lie within or encroach upon the 100-foot WSSC wetlands protection buffer. Most of the proposed wetland impacts are associated with construction of the DTF. The proposed RTC improvements would require the draining and filling of approximately 4.46 acres of wetlands, which is 16.4 percent of the total wetlands at RTC. Wetland impact areas are shown on Figure 9 and listed in Table 9.

Authorization for the unavoidable impacts on wetlands and waterways would require a CWA Section 404 Individual Permit from USACE, and a Non-Tidal Wetland and Waterway Permit and CWA Section 401 Water Quality Certification from MDE. Project impacts on waters of the U.S., including wetlands, would be mitigated for by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state regulatory agencies. Coordination with federal and state regulatory agencies including USACE and MDE would be required to develop a project-wide compensatory mitigation strategy to offset impacts on wetlands and waterways. Due to the general lack of approved wetland/stream mitigation banks and in-lieu fee sites in Maryland, this project would likely be required to provide permittee-responsible mitigation in which the permittee provides compensatory mitigation through aquatic resource restoration, creation, enhancement and/or preservation. This compensatory mitigation may be provided at or adjacent the impact site or at another location, usually within the same

watershed as the permitted impact. The permittee retains responsibility for the implementation and success of the mitigation project. The USACE and MDE mitigation approval process, particularly permittee-responsible mitigation, can be time consuming. Planning and agency coordination with USACE and MDE on permit mitigation requirements should begin well in advance of the anticipated permit submission.

As project planning and design continues, site-specific surveys would be conducted to confirm the boundaries of wetlands and their associated buffers throughout the property. New construction within wetlands or the wetland buffer would be evaluated based on detailed site plans to minimize potential indirect and direct impacts on wetlands. Modifications to the design and engineering of roads and/or buildings would be incorporated to the extent practicable in consideration of wetland boundaries and buffers and would be coordinated with federal and state agencies with regulatory jurisdiction. Such modifications could include constructing a raised roadway or using culverts and drains to assist water movement.

Adherence to erosion and sediment control measures during construction and the incorporation of stormwater management and LID techniques would minimize the discharge of sediments and pollutants to wetlands. The phased implementation of the proposed projects over a period of several years would further minimize such impacts. Thus, short-term impacts on wetlands resulting from Alternative B would be minor.

While long-term impacts on wetlands resulting from Alternative B would be adverse, such impacts would remain moderate in the context of the surrounding area, particularly with respect to extensive wetlands within the adjacent Patuxent Research Refuge that would remain undisturbed. Adherence to applicable avoidance, mitigation, compensation and/or other regulatory requirements would further minimize the severity of wetland impacts.

Mitigation

- In the design of the individual projects, USSS would seek ways to reduce pollutant loads by identifying potential restoration or retrofit opportunities that could be done in conjunction with new development. This would minimize impacts of the projects and decrease the current pollutant loads within the watershed.
- During the design phase, consult with MDE on individual projects to ensure that Tier II waters in the area are not degraded.
- If localized perched groundwater is encountered during excavation, appropriate dewatering techniques would be implemented consistent with USACE regulations for erosion, sediment control, and stormwater management.
- Appropriate erosion and sediment control measures and stormwater management would be implemented throughout the course of construction and operation of the proposed facilities, consistent with applicable federal, Maryland, and Prince George's County regulations.
- Regulated substances would be stored on an impervious area and away from surface water and storm drains.
- Potential impacts on wetlands or associated buffer would be subject to federal and/or state review and approval in accordance with Section 404 of the CWA, Maryland Nontidal Wetlands Protection Act, and the Coastal Zone Management Act. USSS would work with appropriate federal and state agencies to obtain proper permits and authorizations for any alterations.

- Project impacts on waters of the U.S., including wetlands, would be mitigated for by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state resource agencies.
- To the greatest extent practicable, roads and parking areas would be routed to minimize their footprint on wetlands, while maintaining vehicular access to the eastern sector of the site for patrol purposes. If road construction through wetlands is unavoidable, mitigation measures would be implemented to minimize adverse impacts. Adequate drainage of the natural surface and groundwater below the roadway would be maintained by either constructing a raised roadway or using culverts and drains to assist water movement. The roadway would also be constructed in such a way that stormwater is able to drain away from wetlands, thereby minimizing an influx of additional water and pollutants. To the extent practicable, disturbance to vegetation would be minimized during construction of the roadway and disturbed areas would be re-vegetated with native vegetation of similar composition and structure as the surrounding vegetation.
- Heavy equipment would be confined to proposed development areas during construction.

Vegetation

In an effort to preserve the remaining forested areas throughout the State, Maryland has adopted the Maryland Forest Conservation Act (as amended in 1994) which requires projects to consider the identification of existing forest stands, protection of the most significant forest stands, and establishment of areas for planting new forests. The Forest Conservation Act requires any project on areas 40,000 square feet or greater that is applying for a grading or sediment control permit shall have an approved Forest Stand Delineation (FSD) and Forest Conservation Plan (FCP) (Natural Resources, Article 5-1601-5-1613, Annotated Code of Maryland). The FSD and FCP would be reviewed by the Maryland Department of Natural Resources Forest Service since this is a federal project on federal land.

The FSD provides a preliminary evaluation of a project site in order to determine the most suitable areas for forest conservation. A FSD for the 493-acre RTC was conducted by Environmental Systems Analysis, Inc. in August 2009 to characterize the existing forest cover. Forest stands were delineated in accordance with the requirements set forth in the State Forest Conservation Technical Manual (Maryland DNR, 1997). The following discussion is based on the findings of the FSD.

General Vegetative Conditions

According to the 2009 FSD, the RTC property is within two forest associations: the riparian River Birch-Sycamore association and the upland Chestnut Oak-Post Oak-Blackjack Oak association. The River Birch-Sycamore association is found along the Anacostia River and its tributaries, including Beaverdam Creek. The Chestnut Oak-Post Oak-Blackjack Oak association is generally found on dry sites in the Coastal Plain province.

The forested area within the RTC is estimated to be about 60 percent of the total site, or slightly less than 275 acres. The remainder of the RTC property is composed of landscaped areas, grassy fields, building structures, parking areas and roadways. The existing perimeter fence generally runs through forested areas.

According to the 2009 FSD, the only trees 30 inches in diameter or greater were located along stream banks and are protected by the stream valley buffers. Additionally, there are no historic correlations known to exist between particular trees and buildings on the RTC campus.

Hardwood Stand

As documented in the 2009 FSD, the hardwood forest stand comprises nearly 168 acres of forest scattered throughout the site. Some parts of the stand contain wetlands. The stand contains trees with a median diameter of 12 inches and a typical density of 383 trees per acre. The canopy trees generally measured 14-21 inches in diameter at the time of the FSD. White oak (*Quercus alba*) is the dominant species with a density of approximately 56 white oaks per acre and red maple (*Acer rubrum*) is a co-dominant species. Virginia pine (*Pinus virginiana*), black gum (*Nyssa sylvatica*), pin oak (*Quercus palustris*), willow oak (*Quercus phellos*), northern red oak (*Quercus Rubra*), sweet gum (*Liquidambar styraciflua*), and pitch pine (*Pinus rigida*) are associated species. Common shrubs include American holly (*Ilex opaca*), flowering dogwood (*Cornus Florida*), and high and lowbush blueberry (*Vaccinium corymbosium* and *Vaccinium angustifolium*).

A high concentration of confined deer has had some negative impacts on the local herbaceous community associated with the hardwood stand. This is evident in the lack of tree and shrub seedlings present in the stand. Common herbaceous species include deertongue (*Carphephorus odoratissimus*), greenbriar (*Smilax laurifolia* L.), mile-a-minute (*Persicaria perfoliata*), microstegium (*Microstegium vimineum*), Japanese honeysuckle (*Lonicera japonica*), partridgeberry (*Rubia tinctorum*), wood reedgrass (*Cinna latifolia*) and ground cedar (*Diphasiastrum complanatum*). Some portions of the stand are dominated by the invasive grass microstegium, as it can tolerate low light conditions. Other ground cover includes approximately 5-10 percent coarse woody debris and around five standing dead snags per ¼-acre plot.

Pine Stand

Approximately 104 acres of pine stand is distributed throughout the RTC property. At the time of the FSD, the average diameter of the trees was seven inches while the overstory trees were 12-20 inches in diameter. This stand has a typical density of 308 trees per acre. Virginia pine is the dominant overstory species with approximately 204 pines per acre. Other species in the overstory include loblolly pine (*Pinus taeda*), pitch pine, white pine (*Pinus strobus*), red maple, sweet gum, and northern red oak. The understory contains several tree species such as the black gum, American beech (*Fagus grandifolia*), red maple, sweetgum, northern red oak, southern red oak (*Quercus falcata*), and white oak. American holly dominates the shrub layer. Other species in the shrub layer include greenbrier and high and lowbush blueberry. The herbaceous layer contains greenbrier, cinnamon fern, wood reedgrass and ground cedar and was generally sparse. Unlike the hardwood stand, invasive species do not appear to be a problem. Other ground cover includes approximately 5-10 percent coarse woody debris and around five standing dead snags per ¼-acre plot. Several plots within this stand have numerous standing dead trees less than three inches in diameter.

Recent Plantings

The USSS was the recipient of the 2015 DHS Sustainability Practices Award in the Green Dream Team Category for undertaking a project as an act of good environmental stewardship of public lands and as investments in the future. A yearlong project where the USSS entered into a partnership with the MDNR "Lawns to Woodlands" program planted 6,780 trees in April of 2015. The planting, which are indigenous to Maryland, included White Oak, Northern Red Oak, Willow Oak, Red Maple, Sycamore, Redbud, Flowering Dogwood, Red Chokeberry, and Serviceberry. Replanted areas are shown in Figure 11 and labeled as Trees 2014.

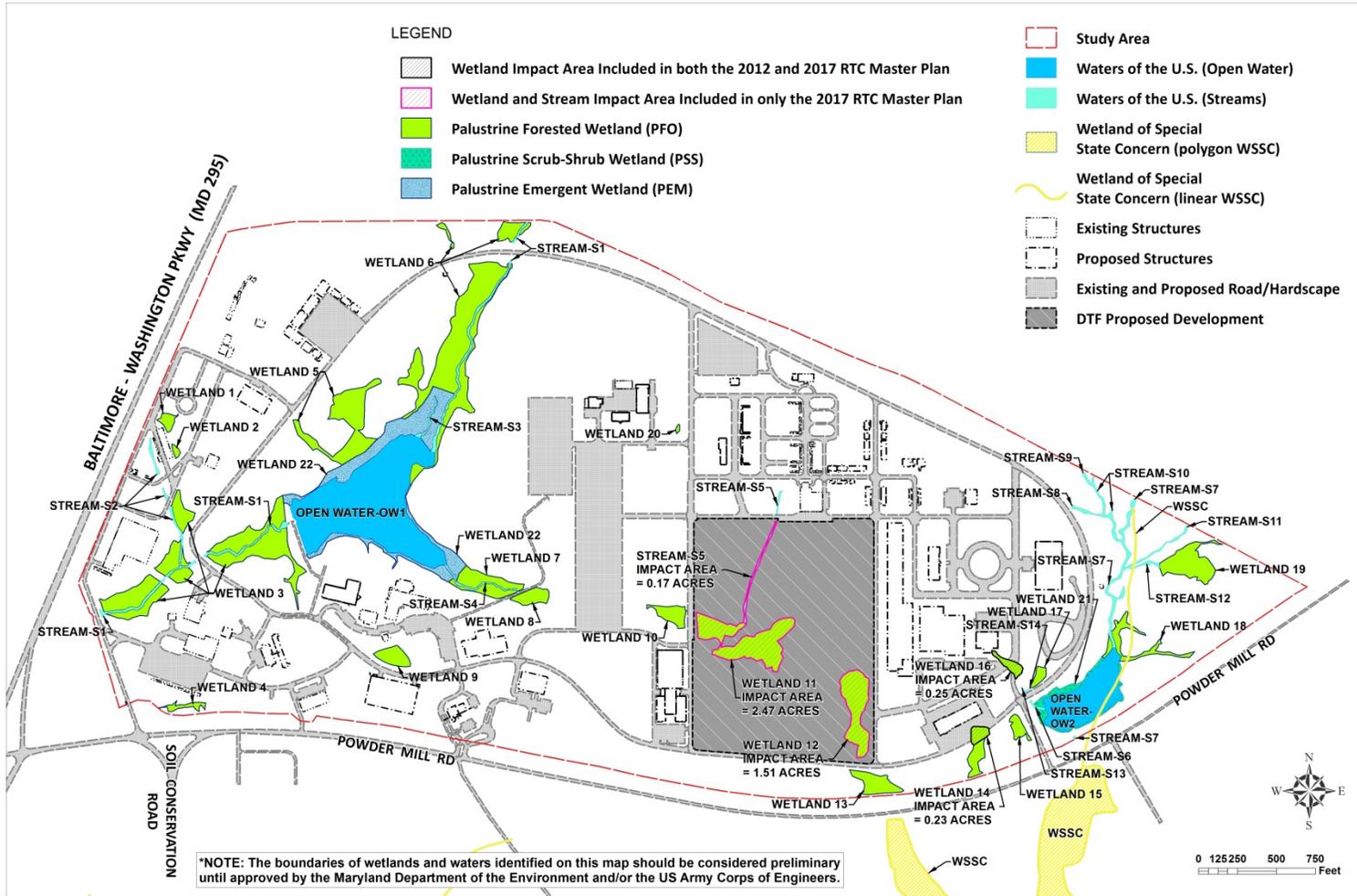


Figure 9: Impacts on Wetlands and Waters within the RTC

Source: AECOM 2017



Figure 10: Vegetation Plan for Alternative A
Source: HGA 2012



Figure 11: Vegetation Plan for Alternative B
 Source: HGA 2017

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Disturbed Forest

There is also a small 3.5-acre disturbed forest stand that is comprised of scrub hardwood forest and numerous man-made hummocks of dirt, about six feet tall. It is likely that the area was altered 35 to 50 years ago. Trees have grown since then, now measuring 12-14 inches. The dominant species include sycamore (*Platanus occidentalis*) and black cherry (*Prunus serotina*). Associated species include red maple, tulip poplar, bigtooth aspen (*Populus grandidentata*), and sweetgum. The understory includes American beech, red maple, and American holly. Groundcover includes wood reedgrass, Japanese honeysuckle, mosses, deer tongue, and ground cedar.

Alternative A: No Action Alternative Vegetation Impacts

The facilities and infrastructure improvements proposed under the Alternative A would require removal of approximately 35 acres of forest (see Figure 10). Alternative A would be phased over a period of 10 to 15 years and thus the reduction in forested area would occur gradually and reforestation could be implemented where feasible. The proposed forest impacts would require MDNR approval of a FSD and FCP. Overall, long-term adverse impacts on vegetation are anticipated to be minor.

Mitigation

- Where feasible, concentrate development in unforested areas or at the perimeter of the forest.
- Limit forest removal to the footprint of buildings and necessary driveways, roads, and parking lots.
- No removal or disturbance of forest habitat during April-August, the breeding season for most forest interior dwelling species (FIDS).
- Afforestation and reforestation measures would be implemented to the greatest extent practicable in compliance with the Maryland Forest Conservation Act (1991; as amended 1993 and 1994).
- Afforestation efforts to offset impacts on removal of forests associated with the development under the master plan would target riparian areas less than 300 feet wide, and gaps or peninsulas of non-forested habitat.
- Native trees and landscaping would be planted to supplement existing vegetation throughout the site. New vegetation would be introduced for each acre removed from the campus. Tree vegetation to be retained on-site would require protection measures (i.e. tree protective fencing) during construction.
- Noxious weeds and non-native invasive plant control would be implemented through the RTC forest management plan.
- To the extent practicable, the forested wetlands and their buffers throughout the property would be protected, as they are identified as high-priority retention areas performing valuable water quality functions.

Alternative B: Proposed Action Alternative Vegetation Impacts

Based on proposed building footprints and construction access areas, it is estimated that implementation of the 2017 RTC Master Plan Update would remove approximately 76 non-contiguous acres of the almost 275 total acres (27.6 percent) of vegetation at the RTC (see Figure 9). The removed vegetation would consist of forest, landscape trees and shrubs, and maintained lawn. The proposed forest impacts would require MDNR approval of a FSD and FCP.

In a number of instances, the contiguous areas of vegetation removal would be 10 acres or less. The most substantial removal of vegetation would consist of the approximately 38 contiguous acres of hardwoods,

pinus and wetland vegetation that would be cleared on the site of the DTF. This would constitute a substantial loss of forest interior and wetland vegetation within the boundaries of the RTC. For the majority of projects, however, the removal of trees and vegetation would occur at the edges of forested areas.

As the implementation of the proposed projects would be phased over a period of 10 to 15 years, the reduction in forested area would occur gradually and reforestation could be implemented where feasible, thereby minimizing impacts. It is estimated that construction of the new roadways throughout the campus would cover less than six acres of land. Minor site work and clearing would be necessary for the placement of the new perimeter fence. It is estimated that less than six acres of land would be affected by the perimeter fence buffer.

Where practicable, the buffer would continue to maintain its natural vegetation and tree cover. By maintaining as much of the existing native tree cover as possible, impacts on vegetation and the wildlife habitat it provides would be minimized. The forested area in the southwestern corner of the tract that surrounds the tributary to Beaverdam Creek, as well as forested wetlands and their buffers, are considered high priority retention areas due to their water-related function and thus would be avoided to the extent possible. Overall, long-term adverse impacts on vegetation would be moderate. The mitigation measures for Alternative B would be the same as those listed above for Alternative A.

Wildlife

The undeveloped tracts of land throughout the RTC property provide abundant habitat used by many birds and mammals. The upland forest stands provide protection for squirrels and other mammals, as well as nesting and rearing sites for birds, including chickadees, cardinals, mockingbirds, and blue jays. Cavity nesting sites for squirrels and birds such as woodpeckers can be found in the numerous dead standing trees. The RTC property also contains potential FID bird habitat. FID bird habitat is defined as forest tracts that are greater than 300 feet in interior depth. Due to the RTC's adjacency to USGS Patuxent Wildlife Research Center, the forested areas at RTC offer valuable unfragmented habitat.

Large numbers of deer utilize the RTC property for browsing and rearing. The deer population has greatly expanded in recent years due in part to favorable vegetative conditions and lack of predation. This condition is exacerbated by the fact that these animals are confined by fences in some locations. Patriot Wildlife performed two managed hunts during the 2015-2016 Regulated Hunting Season in an effort to reduce the total population present. A Population Census in January of 2016 obtained data relating to total population, deer per square mile, sex ration, and fawn recruitment. The RTC has estimated population of 61 deer.

Rare, Threatened, and Endangered Species

USSS received online certification on October 5, 2016 that no federally proposed or listed threatened or endangered species are known to exist on the site, and an online U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPAC) inquiry indicated that no threatened or endangered species are known to occur on the site. Thus, no biological assessment or ongoing Section 7 consultation is required. Four State rare, threatened, or endangered (RTE) species have been documented in the Beaverdam Creek watershed near the RTC: the Cicadellid Leafhopper (*Chlorotetix* sp.), Eastern Sedge Barrens Planthopper (*Limotettix* sp.), Sable Clubtail (*Gomphus rogersi*), and Canada Burnet (*Sanguisorba canadensis*). Potential habitat for these species occurs in sunny herbaceous wetlands in the pond

margins. Potentially suitable habitat is present at the RTC along the two ponds and their upstream marshes.

MDNR provided USSS a project review letter dated November 3, 2016 regarding fisheries species in the vicinity of the proposed project. MDNR stated that the unnamed tributary to Beaverdam Creek is located on the site and is classified as a Use Class I stream. Generally no instream work is permitted in Use Class I streams during the period of March 1 through June 15, inclusive, during any year to protect spawning fish. In addition, there are Sensitive Species Project Review Areas located on the west and east sides of the property. The MDNR Wildlife and Heritage Service should be further consulted to see if any Sensitive Species might be affected by further development of the site.

Alternative A: No Action Alternative Wildlife Impacts

Alternative A would require approximately 35 acres of forest clearing. The forested areas within the site contain FID bird habitat, defined as forest tracts greater than 300 feet in interior depth. However, the majority of the forest clearing for Alternative A would not impact FID bird habitat and similar habitat would remain on the RTC property and at the adjacent USGS Patuxent Wildlife Research Center. In addition, there would be an increase in edge habitat. Large numbers of deer population would be displaced (and relocated to other areas within the RTC site) due to development on the site.

USSS received online certification on October 13, 2011 that no federal RTE species have been documented on the RTC property. No federally listed RTE species were identified by a follow-up query conducted on October 5, 2016 using the UFWS's online IPAC tool. However, several state listed RTE species have been identified within the Beaverdam Creek watershed. Potential habitat for these species occurs on the RTC property in the herbaceous wetlands along the pond margins. The USSS would conduct additional consultation with the MDNR to minimize impacts on state listed RTE species to the extent practicable.

Through additional consultation with MDNR and adherence to the mitigation measures described below, it is anticipated that impacts on wildlife resulting from Alternative A would remain minor.

Mitigation

- To the extent practicable, limit forest removal to the "footprint" of buildings and only what is necessary for placement of roads and driveways.
- Implement a planting program to reduce potential loss of wildlife habitat.
- Afforestation efforts would target streamside areas lacking woody vegetation to help minimize effects of habitat loss to FID bird species.

Alternative B: Proposed Action Alternative Wildlife Impacts

Alternative B would result in similar impacts on wildlife as Alternative A except Alternative B would require approximately 76 acres of forest clearing. Like Alternative A, the majority of clearing under Alternative B would not impact FID bird habitat. As a result, through additional consultation with MDNR and adherence to the mitigation measures described below, it is anticipated that impacts on wildlife resulting from Alternative B would remain minor.

Mitigation

- To the extent practicable, limit forest removal to the "footprint" of buildings and only what is necessary for placement of roads and driveways.

- Implement a planting program to reduce potential loss of wildlife habitat.
- Focus afforestation efforts on streamside areas lacking woody vegetation to help minimize effects of habitat loss to FID bird species.
- Consult with the Maryland Department of Natural Resources Wildlife and Heritage Service as specific projects of the Master Plan are implemented.

Noise

In 2009, an Operational Noise Survey was completed for the RTC by the Department of the Army, Public Health Command. The purpose of the study was to conduct detailed noise measurements of activities at the RTC and to develop mitigation measures. The following analysis is based on the results of the 2009 study and was included in the 2012 EA.

Noise can generally be defined as unwanted or unwelcome sound. Noise levels are usually measured in decibels (dB), on a logarithmic scale, that are weighted to sounds perceivable by the human ear (A-weighted sound levels [dBA]). A-weighted decibels account for the fact that the human ear is not equally sensitive to all frequencies. Noise levels are typically expressed as an average over a period of time (Leq) since noise sources may produce varying degrees of sound throughout a given period. The maximum allowable noise levels are designed to protect human activities or land uses that may be infringed upon by ambient noise. Certain land uses are considered to be noise sensitive receptors, including residential dwellings, hotels, hospitals, nursing homes, and educational facilities. The residential properties that directly border the RTC to the north may be classified as noise sensitive receptors.

The EPA originally coordinated federal noise control activities. Noise was regulated by the Noise Control Act of 1972, which states that it is the policy of the United States to "promote an environment for all Americans free from noise that jeopardizes their health or welfare." However, in the early 1980s EPA concluded that noise issues were best addressed at the state or local level. Maryland state regulations limit dBA to 65 during daytime hours (between 7:00 a.m. and 10:00 p.m.) and 55 dBA at night. Periodic events should not exceed 60 dBA during the daytime and 50 dBA during nighttime hours. Both the federal and Prince George's County noise regulations may exempt the activities at the RTC: the Federal Noise Control Act exempts "any military weapons or equipment which are designed for combat use", while the county ordinance exempts "an event or activity which takes place on property owned by the United States.

Noise monitoring was conducted at three locations along the northern boundary of the RTC in the summer of 2009. These measurements were intended to capture varied activities including: rush hour traffic on Maryland Route 197; mid-morning noise levels without campus activity; evening noise levels without campus activity; gunfire activity at the outdoor ranges during a normal training day; gunfire activity at the outdoor firing ranges during the evening; gunfire activity at the Tactical Village during a normal training day; gunfire activity in the woodlands adjacent to the residential area; protective driving exercises on the PODC during a normal training day; and protective driving exercises on the PODC in the evening.

The 24-hour average day-night sound level was found to be 55 dBA, thereby meeting the Maryland state regulations. However, at the Tactical Village, the small arms blank firing exceeded the Maryland maximum daily limit for periodic events, with measurements ranging from 53 to 92 dBA. Small arms blank firing along the North Perimeter Road and in the woodlands adjacent to residential properties also exceeded the maximum daily limit for periodic events, at between 66 and 96 dBA. Small arms live fire training at the

outdoor rifle range and outdoor pistol range averaged approximately the 60 dBA limit for periodic events. The simulator weapons, in particular the flash bang simulators and bird bangers, also exceeded the periodic limit when employed at the Magaw Shoothouse (between 60 and 67 dBA), Tactical Village (between 64 and 88 dBA), and along the North Perimeter Road and in the woodlands (between 70 and 97 dBA). In addition, PODC exercises consisting of "bird banger" simulated rounds also exceeded the 60 dBA limit, being measured at between 60 and 87 dBA. Noise generated from the PODC course was within the average limit, but occasionally exceeded the periodic maximum. Peak sound levels were found to be below the threshold for structural damage from airborne vibration.

The noise study suggests that the construction of a sound barrier or earth berm 15 to 30 feet high would provide a reduction of 8-14 dB for small arms and other RTC training exercises that occur within 100 feet of the barrier. The study acknowledges that the construction of an earth berm of this size would be difficult and thus a man-made barrier may be more practical. However, even with the construction of an earth berm or thin walled barrier, the study notes that noise from the small arms activity on the North Perimeter Road and Tactical Village area may still exceed periodic maximums, thereby impacting the adjacent residential properties. Thus, the study recommends that flash bangs and bird bangers (both simulated weapons) not be utilized within 500 meters of the residential community under average weather conditions or 800 meters under adverse weather conditions.

Alternative A: No Action Alternative Noise Impacts

Construction activities on the site, as well as the movement of heavy trucks, have the potential to increase ambient noise levels over the short term. However, the Master Plan would be phased over 10 to 15 years such that at any given time, construction would likely be limited in scope. Thus, short-term adverse impacts are anticipated to be minor.

With the implementation of Alternative A, both the number of students and the variety of training opportunities at the RTC would increase. In order to minimize noise impacts on adjacent properties, the new firearms training precinct would be located in the interior of the campus. In addition, the new rifle range and firearms training complex within the precinct would be enclosed, thereby minimizing noise emitted from those facilities. The PODC pad would be expanded to allow for additional driver and bicycle training; however, it would be located at the center of the campus. Given that PODC training generally does not exceed the Maryland noise standards, it is unlikely that the expansion of activities would have a noticeable impact on ambient noise levels. The helipad would be located in the southern portion of the site in the shared campus facility. Use of the helipad would increase intermittent noise. Periodic noise would likely increase within the Tactical Training Precinct due to expanded training activities. The Tactical Training Precinct would be located on the northern side of the campus proximate to nearby residential uses. As a result, there is the potential for long-term, but intermittent, moderate adverse impacts from noise.

Mitigation

- During the design of potentially noise-producing training venues, the impact of noise generated by the new development would be studied and potential mitigation measures identified.
- To the extent feasible, training activities along the northern perimeter road and within the northern woods would be limited to daytime hours.
- USSS would continue to coordinate with adjacent property owners to address noise issues as they occur.

Alternative B: Proposed Action Alternative Noise Impacts

Alternative B would result in similar impacts on noise as Alternative A with the exception of the DTF. While the size of the proposed DTF under Alternative B would be substantial as compared to other facilities on the campus, it is not anticipated that activities occurring there would notably contribute to exceedances of ambient noise levels at the RTC. As a result, there is the potential for long-term, but intermittent, moderate adverse impacts from noise.

Mitigation

- During the design of potentially noise-producing training venues, the impact of noise generated by the new development would be studied and potential mitigation measures identified.
- To the extent feasible, training activities along the northern perimeter road and within the northern woods would be limited to daytime hours.
- A double perimeter security fence is proposed under the RTC 2017 Master Plan; during the design of the fence, the incorporation of a noise barrier wall as part of the inside perimeter should be studied.
- USSS would continue to coordinate with adjacent property owners to address ongoing noise issues.

Air Quality

National Ambient Air Quality Standards and Attainment Status, Clean Air Act Conformity, Hazardous Pollutants, and Stationary and Mobile Emissions Sources

Criteria Pollutants and National Ambient Air Quality Standards

The EPA, under the requirements of the 1970 Clean Air Act (CAA) as amended in 1977 and 1990, has established National Ambient Air Quality Standards (NAAQS) for six air pollutants known as criteria pollutants (40 CFR 50): carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ [particulate matter with a diameter ≤ 10 micrometers], and PM_{2.5} [particulate matter with a diameter ≤ 2.5 micrometers]), lead (Pb), and sulfur dioxide (SO₂). Note that O₃ is not emitted directly into the atmosphere; instead it is created by the combination of nitrogen oxides (NO_x) and volatile organic compounds (VOC), which are referred to as O₃ precursors.

The NAAQS include primary and secondary standards. The primary standards were established at levels sufficient to protect public health with an adequate margin of safety. The secondary standards were established to protect the public welfare from the adverse effects associated with pollutants in the ambient air. Table 10 shows the primary and secondary standards.

Table 10: National Ambient Air Quality Standards

Pollutant	Primary / Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)	Primary	8 hours	9 ppm ⁽¹⁾	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead (Pb)	Primary and secondary	Rolling 3 month average	0.15 µg/m ³ ^(1,2)	Not to be exceeded

Pollutant		Primary / Secondary	Averaging Time	Level	Form
Nitrogen Dioxide (NO ₂)		Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and secondary	1 year	53 ppb ^(1,3)	Annual Mean
Ozone (O ₃)		Primary and secondary	8 hours	0.070 ppm ⁽⁴⁾	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particulate Matter (PM)	PM _{2.5}	Primary	1 year	12.0 µg/m ³	Annual mean, averaged over 3 years
		Secondary	1 year	15.0 µg/m ³	Annual mean, averaged over 3 years
		Primary and secondary	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	Primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO ₂)		Primary	1 hour	75 ppb ⁽⁵⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Notes:

(1) ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter

(2) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m³ as a calendar quarter average) also remain in effect.

(3) The level of the annual NO₂ standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(4) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards additionally remain in effect in some areas. Revocation of the previous (2008) O₃ standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(5) The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

Source: USEPA, <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

Ambient Air Quality Attainment Status

Areas that meet the NAAQS for a criteria pollutant are designated "in attainment." Areas where a criteria pollutant level exceeds the NAAQS are "nonattainment" areas. A maintenance area is one that has been

re-designated from nonattainment status and has an approved maintenance plan under Section 175 of the CAA.

The proposed action evaluated in this SEA would occur at the RTC in Prince George's County, Maryland, an area currently designated as being in marginal non-attainment for O₃ and a maintenance area for PM_{2.5}. Prince George's County's nonattainment and maintenance status governs air quality conformity requirements for the proposed action.

Clean Air Act Conformity

The Clean Air Act Amendments (CAAA) of 1990 expand the scope and content of the act's conformity provisions in terms of their relationship to a State Implementation Plan. Under Section 176(c) of CAAA, a project is in "conformity" if it corresponds to a State Implementation Plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving their expeditious attainment. For those nonattainment areas that are re-designated attainment, the state is required to develop a ten-year maintenance plan to ensure that the areas remain in attainment status for the same pollutant. Conformity further requires that such activities would not:

- Cause or contribute to any new violations of any standards in any area.
- Increase the frequency or severity of any existing violation of any standards in any area.
- Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The EPA published a final rule on general conformity (40 CFR Parts 51 and 93) in the Federal Register on November 30, 1993. The rule applies to federal actions in nonattainment areas for any of the criteria pollutants and specifies *de minimis* emission levels by pollutant to determine the applicability of conformity requirements for a project.

The RTC is located in a nonattainment area for the O₃ standard and a maintenance area for the PM_{2.5} standard. The corresponding *de minimis* are 100 tons per year (tpy) for NO_x and 50 tpy for VOC as defined for O₃ precursors and 100 tpy for PM_{2.5}.

Stationary Sources

Maryland's air pollution control program establishes requirements for sources that emit air pollutants into the atmosphere and is implemented and enforced by MDE. MDE is also responsible for issuing air permits as applicable for the construction and operation of stationary sources in Maryland. Stationary sources at the RTC include boilers, generators, heaters, and emergency generators. Emissions of air pollutants generated by the RTC are permitted by the MDE under a synthetic minor operating permit (USEPA 2017).

Alternative A: No Action Alternative Air Quality Impacts

Construction Impacts

The implementation of Alternative A would result in emissions of air pollutants during the construction phase and can be anticipated to result in the following short-term adverse impacts on air quality:

- Fugitive dust and VOC would be generated by construction and demolition activities (including site clearing, excavation, demolition, grading, and paving activities).
- Emissions of criteria pollutants and greenhouse gases would result from such activities as:
 - The use of diesel-powered construction equipment.

- o Construction-related vehicles (including heavy trucks as well as workers' privately owned vehicles) traveling to and from the project sites.

Adverse short-term impacts on air quality would be minimized through the use of standard BMPs such as wetting or vegetating soils that would be exposed for extended periods; covering equipment used to convey fill or excavated soils; and promptly removing spilled or tracked dirt from paved areas.

Generally, impacts on air quality resulting from the implementation of Alternative A would be similar to other small- to medium-scale construction and development projects. The quantity and duration of construction-related emissions would vary during the construction phase of Alternative A as the projects would be implemented over a period of several years, further minimizing short-term impacts on air quality.

It is anticipated that emissions from construction-related activities, vehicles and equipment would remain well below the applicable *de minimis* thresholds of 100 tpy for NO_x and 50 tpy for VOC as defined for O₃ precursors and 100 tpy for PM_{2.5} when implemented over a multi-year period. Such emissions would remain in accordance with the applicable maintenance plan for Prince George's County and would not cause or contribute to any new violations of applicable standards; would not increase the frequency or severity of any existing violation of applicable standards; and would not delay the timely attainment of applicable standards or any other required emission reductions or applicable milestones.

Following the completion of construction activities associated with Alternative A, construction-related emissions would cease and air quality in the vicinity of the RTC would return to pre-project conditions. As such, construction-related emissions would not contribute to the deterioration of regional air quality and would remain minor.

Operational Impacts

At this stage of planning, the size and quantity of new boilers, emergency generators or other stationary emissions sources that would be installed as part of the proposed facilities included in Alternative A is not known. Such equipment to be installed as part of the proposed projects, if any, would be permitted in accordance with all applicable requirements including the CAA and MDE regulations. Emissions would remain at or below regulatory thresholds and would not contribute to the deterioration of regional air quality. Thus, long-term impacts on air quality from the installation and operation of stationary sources at the RTC as part of Alternative A would remain minor.

Under Alternative A the number of employees at the RTC would increase by 162 people to a total of 460, potentially resulting in an increase in daily vehicular traffic to and from the RTC and a corresponding increase in automobile emissions. Adherence to the 1:1.5 employee-to-parking-space ratio, which would limit the number of employee parking spaces to 307, would encourage carpooling and the use of other modes of transportation by employees to the RTC while discouraging reliance on SOV. This would consequently minimize the number of vehicles driven to the RTC and corresponding quantities of automobile emissions. Further, it is likely that the parking requirements of the current number of employees (298) are completely or almost entirely accommodated by the number of existing employee and visitor parking spaces available at the RTC (551). Thus, the number of SOV that would be accommodated by the proposed number of employee parking spaces would generate a relatively negligible increase in the number of employee-operated SOV currently traveling to and from the RTC each day. In addition, the implementation of Alternative A would not result in increases of diesel-fueled

vehicles traveling to and from the RTC. For these reasons, impacts on air quality from vehicular emissions associated with Alternative A would be minor.

Mitigation Measures

- The following BMPs would be used to minimize fugitive dust generated during construction activities: wetting or vegetating soils that would be exposed for extended periods; covering equipment used to convey fill or excavated soils; and promptly removing spilled or tracked dirt from paved areas.
- Construction contractors would be required to maintain their gas- and diesel-powered equipment in good working order, and to minimize idling when equipment is not being actively used.
- Adherence to NCPD parking ratios would minimize the number of employee-owned SOV traveling to and from the RTC each day.

Alternative B: Proposed Action Alternative Air Quality Impacts

Construction Impacts

Short-term emissions of air pollutants from construction activities associated with Alternative B would be similar to those described for Alternative A. However, the quantity and duration of such emissions from construction activities during Alternative B would be somewhat greater, as Alternative B includes an additional number of projects; most notably, it includes the DTC and the associated site clearing and preparation that project would involve. BMP to minimize construction-related emissions would be similar to those described for Alternative A. The quantity and duration of construction-related emissions would vary throughout Alternative B's construction phase, as the individual projects would be implemented over a period of several years, and air quality conditions in the vicinity of the RTC would return to pre-project conditions upon the completion of construction activities. The implementation of Alternative B would not cause or contribute to any new violations of applicable standards; would not increase the frequency or severity of any existing violation of applicable standards; and would not delay the timely attainment of applicable standards or any other required emission reductions or applicable milestones. Overall, Alternative B would not contribute to the deterioration of regional air quality. Thus, short-term impacts on air quality resulting from Alternative B would remain minor.

Operational Impacts

Long-term emissions of air pollutants resulting from the implementation of Alternative B would be similar to those described for Alternative A. New stationary sources installed and operated as part of the proposed projects, if any, would be permitted in accordance with applicable requirements. Emissions would remain at or below regulatory thresholds and would not contribute to the deterioration of regional air quality.

As under Alternative A, the number of full-time employees at the RTC would increase by 162 people to 460 under Alternative B. Employee parking at the RTC would apportioned at a ratio of 1.5 parking spaces per full-time employee, as described for Alternative A, for a total of 307 employee parking spaces. The number of diesel-fueled vehicles traveling to and from the RTC each day would not increase under Alternative B. As such, the number of employee-operated SOV traveling to and from the RTC each day and the corresponding impacts on air quality from vehicular emissions would be the same as those described for Alternative A.

For these reasons, long-term impacts on air quality resulting from Alternative B would be minor.

Mitigation

Mitigation measures for Alternative B would be the same as those described for Alternative A.

Utilities

Water Supply

The BARC provides water service to the RTC. The existing 12-inch underground water service line enters at the southwest corner of the RTC campus. From that point, six- and eight-inch lines distribute water throughout most of RTC, although the 12-inch main continues north to the maintenance area. Some of the RTC facilities are not provided with water service, including various storage buildings, the Judgmental Classroom, the observation platform and range to the west, the central outdoor training area, and the protective driver training and practical exercise areas in the central and eastern part of RTC.

A 2006 utility study confirmed that the water treatment plant at the BARC facility was operating well below its capacity, and that it possessed the capability to supply more than a sufficient water volume to RTC in the anticipated Master Plan build-out condition (2016 VIKA). Fire hydrants are located along most of the RTC roadway system and in the vicinity of buildings, in accordance with Prince George's County fire code.

Electrical Service

Existing electrical transmission service to the site is provided by Baltimore Gas and Electric Company (BG&E) through the Montpelier substation. A pole mounted transformer is located on Powder Mill Road near the RTC. Most buildings are individually metered and electrical service extends to the outlying training sites.

Two independent feeders to the campus provide the RTC with redundant electric service. Two switches, one located at the Main Entry and one at the east emergency access gate, connect the system. On campus, the electrical distribution lines provide RTC with a loop distribution system.

Sewage Collection and Treatment

Wastewater currently generated at the RTC is collected by a combination gravity and force main sewer pipe system that ultimately connects to a central wastewater pumping station located in the southwest quadrant of the campus. Three small grinder pump stations in the north, northeast and southeast portions of the RTC, and a lift station northwest of the central pumping station, ensure that all the sewage is effectively conveyed to the central pumping station. The same facilities and buildings that are served by the RTC water system are served by the on-site sewer collection system.

The central sewer pump station has the capacity to deliver 118 gallons per minute (gpm) and currently handles a peak flow of approximately 55 gpm. The pump station discharges to a four-inch force main which extends along Powder Mill Road to a manhole located west of the intersection of Springfield Road and Powder Mill Road. From the manhole, a six-inch gravity sewer line conveys wastewater to the USDA's Advanced Waste Treatment Plant.

Natural Gas Distribution

Washington Gas supplies natural gas to the RTC campus via a six-inch underground service pipe at 50 pounds per square inch gauge. Gas service enters the RTC on the west end of the campus, adjacent to the existing Baughman Outdoor Firing Range. The six-inch underground gas pipe travels east following the southern half of the campus perimeter road and leaves along the southeastern side of the campus where it continues on to serve the BARC.

Alternative A: No Action Alternative Utilities Impacts

Water Supply

Proposed development associated with the 2012 RTC Master Plan would result in an increase in water demand; however, the demands generated would be limited and are not anticipated to impact supply to the local area. The existing water pressure is not strong enough to adequately distribute water throughout the campus, and the campus facilities expansions would require replacement of the water boosting system infrastructure. In the interest of safety and the ability to become self-contained in the event of emergency, shut-off valves would be added to the existing eight-inch water lines entering and leaving the campus. Water could then be distributed through the campus from the stored supply alleviating the need for an outside source of water. Both capacity and pressure increases are proposed to allow for more efficient operation of the system as well as for the expansion of the campus. USSS would coordinate with the Prince George's County Fire/Emergency Medical Service Department as the detailed design of projects progresses to ensure access is maintained to the fire hydrants. Overall, long-term impacts would be beneficial.

Electrical Service

The implementation of the 2012 RTC Master Plan would not require BG&E to reconfigure the existing electrical service system; the existing system has the capacity to accommodate the improvements to the campus. As a result, Alternative A would result in no long-term impacts on electrical service.

Sewage Collection and Treatment

Although the existing sanitary system is sufficient to handle current requirements, growth associated with implementation of the proposed 2012 RTC Master Plan would require extensive upgrades of the existing sanitary system infrastructure. Due to geographical characteristics and overall size of the campus, a system of sanitary sewer pumping stations and sanitary force mains would be utilized. Several new sanitary force mains have been proposed as part of the campus improvements. An increase in pumping capacity of the Main Sanitary Pump Station would handle the expected increase in capacity needs that would result from the campus improvements. Overall, long-term impacts on the sewage collection system would be negligible.

Natural Gas Distribution

The existing gas piping system has sufficient capacity to serve both the current needs of the RTC campus and the projected needs resulting from the proposed facilities expansion. The distribution system infrastructure would be extended to serve the proposed facilities. Overall, long-term impacts would be negligible.

Alternative B: Proposed Action Alternative Utilities Impacts

Water Supply

Proposed development associated with the 2017 RTC Master Plan Update would result in an increase in water demand; however, the demands generated would be limited and are not anticipated to impact supply to the local area. Both capacity and pressure increases are proposed to allow for more efficient operation of the system as well as for the expansion of the campus. Installation of a combined elevated water storage tank would provide adequate water pressure and fire protection. Installation of the new tank would include a design that would match the hydraulic grade line of the BARC facilities. As development proceeds, the water main along North Perimeter Road and/or the South Perimeter Road would loop back to the existing mains near the Knight Building.

USSS would coordinate with the Prince George's County Fire/Emergency Medical Service Department as the detailed design of projects progresses to ensure access to the fire hydrants is maintained. Overall, long-term impacts would be beneficial.

Electrical Service

Like Alternative A, the implementation of the 2017 RTC Master Plan Update would not require BG&E to reconfigure the existing electrical service system; the existing system has the capacity to accommodate the improvements to the campus. As a result, Alternative B would result in no long-term impacts on electrical service.

Sewage Collection and Treatment

Although the existing sanitary system is sufficient to handle current requirements, growth associated with implementation of the proposed 2017 RTC Master Plan Update would require extensive upgrades of the existing sanitary system infrastructure. Due to geographical characteristics and overall size of the campus, a system of sanitary sewer pumping stations and sanitary force mains would be utilized. Several new sanitary force mains have been proposed as part of the campus improvements. An increase in pumping capacity of the Main Sanitary Pump Station would handle the expected increase in capacity needs that would result from the campus improvements. Overall, long-term impacts on the sewage collection system would be negligible.

Natural Gas Distribution

The existing gas piping system has sufficient capacity to serve both the current needs of the RTC campus and the projected needs resulting from the proposed facilities expansion. The distribution system infrastructure would be extended to serve the proposed facilities. A four-inch gas supply line would be extended along the western portion of the loop road in the Dynamic Training and Support precinct and throughout the western portion of the site in the Tactical Training Precinct. Overall, long-term impacts would be negligible.

Stormwater Management

In the developed areas, stormwater is conveyed through closed conduits, road side ditches, and natural channels. Water drains off buildings and paved areas following the site's topography, generally flowing to the south. The total impervious area on the site is approximately 2,284,897 square feet (52.5 acres), or 11 percent of the total site. Much of the balance of the site is wooded. Two ponds exist on the RTC: one approximately nine acres in area lies on the west side of the campus, while another roughly three acres in size lies along the property's southeast edge. Both are illustrated in Figure 8. Based on coordination with USSS staff, it is unclear whether these ponds were intended to serve a stormwater management function.

Portions of the site currently exhibit poor drainage and signs of standing water, in particular an area south of the Merletti parking lot across the southern perimeter road. In addition, there are four stretches of roadway that have roadside ditches that are in poor condition and thus collect water. These include an area south of the maintenance yard, an area north of the Wilson PT Building, an area north of the vehicle storage buildings on the northern perimeter road, and an area east of the Merletti parking lot along the southern perimeter road.

Stormwater Management Impacts

As a federal property in the State of Maryland, the local governing authority is MDE; the *Maryland Stormwater Management Guidelines for State and Federal Projects* (April 2010) outlines the review and approval process for projects such as those proposed in the 2017 RTC Master Plan Update. All projects undertaken after May 2010 are required to utilize Environmental Site Design (ESD) to the maximum extent practicable. ESD is defined as “a comprehensive design strategy for maintaining predevelopment runoff characteristics and protecting natural resources.”

In addition, as a federal facility, development at the RTC must meet the requirements of Section 438 of EISA. These requirements are that “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 temperature, rate, duration and flow.”

Alternative A: No Action Alternative Stormwater Management Impacts

Under Alternative A, there could be short-term construction-related impacts on stormwater due to increased sediment flows; however this would be minimized by implementing BMPs.

Over the long term, impervious surface area on the site would increase from approximately 2,284,897 square feet (11 percent of the total site area) to 3,996,708 square feet (19 percent of the total site area). This would include roads, sidewalks, other paved areas, and buildings.

In order to meet the requirements for achieving ESD, a concept plan for stormwater controls was developed together with the 2012 RTC Master Plan. As outlined in the plan, specific methods for reducing runoff and improving stormwater quality include the following:

- *Permeable pavements* – proposed for newly paved areas; best suited for areas where soil type would allow infiltration and where the water table is not too high.
- *Disconnection of rooftop runoff* – best suited for areas which are currently vegetated and would remain vegetated under the 2012 RTC Master Plan.
- *Disconnection of non-rooftop runoff* – best suited for areas of mild slopes and adjacent to areas of existing vegetation that would remain under the 2012 RTC Master Plan.
- *Rainwater harvesting* – best suited for areas where there is a significant need for non-potable water.
- *Landscape infiltration* – best suited for areas where sufficient space is available to provide pretreatment to the facility, as well as necessary facility footprint size for proper infiltration of stormwater being treated.
- *Rain gardens* – could be added where feasible.
- *Micro-bioretenion* – due to adaptability, this could be used at all of the proposed development sites in the 2012 RTC Master Plan.
- *Swales* – best suited alongside new roadways that would connect sub-areas.
- *Enhanced filters* – could be added where feasible to provide for a greater degree of infiltration.

Alternative B: Proposed Action Alternative Stormwater Management Impacts

Under the Proposed Action Alternative, short-term construction-related impacts on stormwater due to increased sediment flows; however this would be minimized by implementing BMPs.

Over the long term, impervious surface area on the site would increase from approximately 2,284,897 square feet (11 percent of the total site area) to 3,687,221 square feet (19 percent of the total site area). This would include roads, sidewalks, other paved areas, and buildings. As a result, the ESD requires the RTC to manage 458,728.2 cubic feet of stormwater.

In order to meet the requirements for achieving ESD, a concept plan for stormwater controls was developed together with the 2017 RTC Master Plan Update. As outlined in the plan, specific methods for reducing runoff and improving stormwater quality include the following:

- *Green roofs*- runoff from a proposed structure roof would more closely resemble a grassed or open space area.
- *Permeable pavements*- proposed for newly paved areas; best suited for areas where soil type would allow infiltration and where the water table is not too high.
- *Disconnection of rooftop runoff*- best suited for areas which are currently vegetated and would remain vegetated under the 2017 RTC Master Plan Update.
- *Disconnection of non-rooftop runoff*- best suited for areas of mild slopes and adjacent to areas of existing vegetation that would remain under the 2017 RTC Master Plan Update.
- *Rainwater harvesting*- best suited for areas where there is a significant need for non-potable water.
- *Rain gardens*- could be added where feasible.
- *Micro-bioretenion*- due to adaptability, this could be used at all of the proposed development sites in the 2017 RTC Master Plan Update.
- *Swales*- best suited alongside new roadways that would connect sub-areas.
- *Enhanced filters*- could be added where feasible to provide for a greater degree of infiltration.

An analysis of this preliminary concept undertaken as part of the 2017 RTC Stormwater Management Master Plan indicates that sufficient controls can be implemented to comply with the requirements of ESD. Under the Proposed Action Alternative, the deteriorated roadside ditches would be improved through conversion to bio-swales or the installation of turf reinforcing mats. Overall, long-term impacts on stormwater are anticipated to be beneficial.

Mitigation

- BMPs would be implemented during construction in order to minimize sediment loads in stormwater runoff.
- USSS would coordinate with MDE through the detailed design of individual projects to facilitate the implementation of ESD to the maximum extent practicable and to ensure stormwater management controls meet established requirements and that post-development runoff characteristics mimic pre-development characteristics.
- As detailed design progresses for individual elements of the 2017 RTC Master Plan Update, USSS would consider additional soil testing as necessary to determine suitability of underlying soils for specific stormwater management elements.

Sustainability

EO 13514, *Federal Leadership in Environmental, Energy and Economic Performance*, directs federal agencies to strengthen their sustainable practices and to reduce greenhouse gas emissions, water and

energy consumption, and diversion of materials. EO 13514 expands on the energy reduction and environmental performance requirements for Federal agencies identified in EO 13423, *Strengthening Federal Environmental, Energy and Transportation Management*.

EO 13514 lays out the following numerical targets for Federal agencies:

- Reduce petroleum consumption by 2 percent per year through fiscal year 2020 (applies to agencies with fleets of more than 20 vehicles) (assumes a baseline fiscal year 2005).
- Reduce by 2 percent annually:
 - Potable water intensity by fiscal year 2020 (26 percent total reduction) (assumes a baseline fiscal year 2007).
 - Industrial, landscaping, and agricultural water intensity by fiscal year 2020 (20 percent total reduction) (assumes a baseline fiscal year 2010).
- Achieve 50 percent or higher diversion rate:
 - Non-hazardous solid waste by fiscal year 2015.
 - Construction and demolition materials and debris by fiscal year 2015
- Ensure at least 15 percent of existing buildings and leases (>5,000 gross square feet) meet the Guiding Principles by fiscal year 2015, with continued progress towards 100 percent.

EO 13514 also sets non-numerical targets that Federal agencies must reach, including:

- Increase renewable energy and renewable energy generation on agency property.
- Reduce building energy intensity.
- Ensure all new Federal buildings that enter the planning process in 2020 and thereafter are designed to achieve zero-net-energy standards by 2030.
- Use low Greenhouse Gas (GHG) emitting vehicles, including alternative fueled vehicles, and optimize the number of vehicles in agency fleets.
- Implement water management strategies including water-efficient and low-flow fixtures.
- Implement source reduction to minimize waste and pollutant generation.
- Decrease use of chemical directly associated with GHG emissions.
- Participate in transportation planning and recognize existing infrastructure in regions/communities.

In addition to these targets, EO 13514 calls for specific management strategies to improve sustainability including:

- Manage existing buildings to reduce energy, water, and materials consumption.
- Implement and achieve objectives in EPA's Stormwater Management Guidance (§14).
- Reduce paper use and acquire paper containing at least 30 percent postconsumer fiber.
- Minimize the acquisition, use, and disposal of toxic and hazardous materials.
- Employ environmentally sound practice for the disposition of all agency excess or surplus electronic products.
- Procure Energy Star and Federal Energy Management Program (FEMP)-designated electronic equipment.
- Continue implementation of existing Environmental Management System (EMS) programs.

The RTC campus was constructed prior to the federal government's focus on sustainability. Since that time, the RTC has implemented a shuttle to transport trainees to the site, thereby reducing single-occupancy vehicle trips. In addition, substances (such as lead and copper bullets) are recycled, and all hazardous wastes are disposed of by a State-licensed hazardous waste firm.

Alternative A: No Action Alternative: Proposed Action Alternative Sustainability Impacts

In the short term, construction of new buildings and associated infrastructure would have a minor adverse impact on site sustainability due to the use of equipment and vehicles that burn fossil fuels. In addition, construction materials such as concrete, wood, and steel require the use of fossil fuels for preparation and transportation. However, these impacts would not persist beyond the construction phase.

Over the long term, although there would be substantially more development on the site, and greater impervious area, LID measures would be implemented to reduce runoff and improve water quality. The construction of additional buildings on the site would increase the total square footage of buildings at the RTC; however, all major renovation and new construction projects would be designed to meet at least LEED Silver standards which could decrease building energy use and increase energy efficiency. In addition, the upgraded utilities have the potential to improve energy efficiency, resulting in beneficial impacts. Overall, short- and long-term adverse impacts are anticipated to be minor, with beneficial impacts resulting from improvements in energy efficiency.

Alternative B: Proposed Action Alternative Sustainability Impacts

Alternative B would use similar equipment, vehicle, and construction materials as Alternative A. Similarly, Under Alternative B, the amount of the site developed would be greater than under Alternative A. Alternative B would also use LID measures and develop to LEED Silver standards. As a result, the overall short- and long-term adverse impacts on sustainability would be minor, with beneficial impacts resulting from improvements in energy efficiency.

Hazardous Materials

The RTC uses a small number of hazardous materials that are inherent to the operations and mission. Hazardous materials used in training include: ammunition for weapons qualification, various cleaning solvents and oils for weapons, paints, cleaning fluids, motor fuels and other petroleum products, refrigerant for air conditioning, small amounts of explosives, and pyrotechnic training devices.

The RTC is classified as a Large Quantity Generator (EPA Handler ID MD5202720012). Large quantity generators are those that generate 1,000 kilograms (2,205 pounds) or more of hazardous waste per month or more than one kilogram (2.2 pounds) of acutely hazardous waste per month. There are no limits on large quantity generators as to the amounts of hazardous waste that may accumulate on-site; however, such waste can only be accumulated on-site for 90 days. Hazardous waste generated at RTC is managed in tanks, containers and/or containment buildings in accordance with 40 CFR part 265, subparts I, J, W and DD. The RTC submits a biennial report detailing the nature, quantities and disposition of hazardous waste generated at the facility in accordance with 40 CFR § 262.43

Underground storage tanks located on the property contain fuel oil, and above ground tanks contain automotive fuel and diesel fuel. In addition there are backup power generators and traditional boilers for

building heat and hot water. All permits, tank-tightness testing, inspections or record keeping requirements for these items are maintained in accordance with EPA or MDE.

An automotive maintenance facility maintains a small number of vehicles for minor maintenance (oil changes, tire replacement, etc.). All wastes generated from that site are handled following the universal waste requirements and recycle requirements. Required permits, training, and documentation of waste streams are in accordance with EPA or MDE.

The weapons training activities generate waste streams, some of which are recycled. Specifically, bullets (projectile), which are lead encased in copper, are recycled as is the used cartridge casing. The weapons cleaning materials are handled as hazardous waste. A State-licensed hazardous waste firm is used to ensure the proper handling, packaging, shipping, and disposal of all hazardous waste.

The pyrotechnics (sound and flash producing devices) are used during multiple training scenarios. Explosives on site are used for training of canines and are not detonated or used in any way other than as "scents" for the dogs.

EPA, Department of Transportation (DOT), MDE, and Occupational Safety and Health Administration (OSHA) training has been completed by individuals on the site. Reports required by EPA or MDE are completed and filed with the appropriate agency.

Alternative A: No Action Alternative Impacts of Hazardous Materials

Weapons training activities and weapons cleaning currently produce hazardous waste at the RTC. Under the Proposed Action Alternative, the scope of training activities would increase at the RTC, subsequently increasing the hazardous waste stream. However, a portion of the waste, including lead bullets, would continue to be recycled. All hazardous waste would be monitored by a State-licensed hazardous waste firm to ensure its proper handling, packaging, shipping and disposal.

Soil sampling has indicated elevated levels of lead in the vicinity of the Merletti Building. Construction in this area has the potential to disturb these contaminated soils, thereby resulting in short-term adverse impacts. However, construction activities in this area would offer the opportunity to remediate the hazardous materials currently present in the soils.

Overall, short- and long-term adverse impacts are anticipated to be minor. There is the opportunity for beneficial impacts as a result of the proposed action as the contaminated soils around the Merletti Building could be remediated.

Mitigation

- Soils excavated in the vicinity of the Merletti Addition and new Administration and Classroom Building would be tested prior to reuse elsewhere on the site and any contaminated soils would be disposed of by a State-licensed hazardous waste firm.
- The USSS would consult with the MDE regarding hazardous wastes to ensure activities are being conducted in compliance with applicable State and federal laws and regulations.

Alternative B: Proposed Action Alternative Impacts of Hazardous Materials

The generation and treatment of hazardous waste at the RTC under Alternative B would be similar to that under Alternative A. Therefore, Alternative B would result in short- and long-term adverse impacts that are anticipated to be minor.

Mitigation

- Soils excavated in the vicinity of the Merletti Addition and new Administration and Classroom Building would be tested prior to reuse elsewhere on the site and any contaminated soils would be disposed of by a State-licensed hazardous waste firm.
- The USSS would consult with the MDE regarding hazardous wastes to ensure activities are being conducted in compliance with applicable State and federal laws and regulations.
- USSS would coordinate with the MDE to ensure that the installation and maintenance of an above-ground or underground petroleum storage tank is in accordance with applicable federal and State laws and regulations.
- USSS would coordinate the removal of above-ground or underground petroleum storage tanks, their contents, and associated contamination with MDE as projects are implemented.
- Solid waste generated through the implementation of specific projects of the Master Plan would be disposed of at a permitted solid waste acceptance facility or recycled.
- Contracts specifying "lead paint abatement" would comply with Code of Maryland Regulations 26.16.01- Accreditation and Training for Lead Paint Abatement Services.

Coastal Zone Management

The Federal Coastal Zone Management Act (CZMA) of 1972 (16 USC § 1451, et seq., as amended) requires that "federal actions which are reasonably likely to affect any land or water use, or natural resource of a state's coastal zone be conducted in a manner that is consistent with a state's federally approved Coastal Zone Management Program (CZMP)" (Ghigiarelli, 2004). Through the CZMP, specific goals, objectives, and policies were established for the management of uses and activities which have a direct, and potentially significant, effect on coastal resources. On March 18, 2011, the National Oceanic and Atmospheric Administration (NOAA) announced its approval of a Routine Program Change (RPC) to Maryland's Enforceable Coastal Policies. The RPC was submitted to NOAA on November 19, 2010. Federal consistency applies to the updated policies as of April 8, 2011.

Maryland's Coastal Zone is made up of sixteen counties and the City of Baltimore. This includes Prince George's County, the site of the RTC. The RTC is more than ten miles from the Chesapeake Bay. It is not located in close proximity to any beaches, estuaries, barrier islands, or coral reefs. In addition, the campus lies outside the 100-year floodplain. There are two ponds and wetlands on a portion of the site. The extent of the wetlands is discussed above in Water Resources and potential impacts on wetlands are detailed in the Water Resources Impacts discussion of this SEA.

Alternative A: No Action Alternative Coastal Zone Management Impacts

The MDNR is the State's lead agency for the State's CZMP. As a networked program, the federal consistency function is carried out by the Coastal Zone Consistency Division in the Wetlands and Waterways Program in the Water Management Administration (WMA) of MDE. The WMA coordinates the consistency review with appropriate state agencies and issues a public notice for the project, if necessary. If any state agency or public comments are received, WMA transmits the State's response to the federal agency, including action on the federal agency's consistency determination (Ghigiarelli, 2004).

Prince George's County is located within Maryland's designated coastal zone. As a federal property, the RTC is statutorily excluded from CZMA requirements. However, projects included in Alternative B would have the potential to affect resources of Maryland's coastal zone; thus, the USSS is required to demonstrate that the proposed projects would be consistent to the maximum extent practicable with the

enforceable policies of Maryland's federally-approved CZMP. Table 11 indicates which policies may be applicable to the individual master plan projects.

The 2012 RTC Master Plan was designed to avoid natural resources to the greatest extent possible. The USSS has developed a stormwater management plan in conjunction with the RTC Master Plan to ensure that the proposed master plan projects comply with Section 438 of the EISA. Stormwater management is discussed in detail in Stormwater Management Impacts. The USSS would also submit erosion and sediment control plans to MDE for master plan projects as they are undertaken. In addition, the USSS would implement LID measures and all facilities would be designed to meet LEED Silver standards, or higher.

For these reasons, the USSS has determined that the projects included in Alternative A would be consistent to the maximum extent practicable with the enforceable policies of Maryland's CZMP.

Table 11: Coastal Zone Management Policies

Policy	Potential Applicability to Master Plan Projects
General Policies	
Core Policies	Applicable
Water Quality	Applicable
Flood Hazard	Not Applicable- no floodplains on site
Coastal Resources	
Chesapeake and Atlantic Coastal Bays Critical Area	Not applicable- not within Critical Area
Tidal wetlands	Not applicable- no tidal wetlands on site
Non-tidal wetlands	Applicable
Forests	Applicable
Historical and archaeological sites	Not applicable- no historic properties on site
Living aquatic resources	Applicable
Coastal Uses	
Mineral extraction	Not applicable- no mineral extraction
Electrical generation and transmission	Not applicable- no electrical generation or transmission
Tidal shore erosion control	Not applicable- not on shoreline
Oil and natural gas facilities	Not applicable- no oil and gas facilities
Dredging and disposal of dredged material	Not applicable- no dredging or disposal of dredged material
Navigation	Not applicable- no navigational access

Transportation	Not applicable- no transportation facilities
Agriculture	Not applicable- no agricultural uses
Development	Applicable
Sewage Treatment	Not applicable- no sewage treatment

Alternative B: Proposed Action Alternative Coastal Zone Management Impacts

Like Alternative A, Alternative B would be consistent to the maximum extent practicable with the enforceable policies of Maryland’s CZMP. The 2017 RTC Master Plan Update was also designed to avoid natural resources to the greatest extent possible. The USSS has developed a stormwater management plan in conjunction with the RTC Master Plan Update to ensure that the proposed master plan projects comply with Section 438 of the EISA. Stormwater management is discussed in detail in Stormwater Management Impacts. The USSS would also submit erosion and sediment control plans to MDE for master plan projects as they are undertaken. In addition, the USSS would implement LID measures and all facilities would be designed to meet LEED Silver standards, or higher. For these reasons, the USSS has determined that the projects included in Alternative B would be consistent to the maximum extent practicable with the enforceable policies of Maryland’s CZMP.

Summary of Impacts

The table below summarizes the environmental consequences of the No Action Alternative and the Proposed Alternative.

Table 12: Summary of Environmental Consequences

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
Land Use and Planning Polices	<p>Alternative A would have long-term beneficial impacts on land use within the RTC and would have negligible impacts on uses outside the RTC. Impacts on planning policies would also be negligible.</p> <p>All of the proposed projects would occur within the existing boundaries of the RTC. Alternative A would not result in impacts on the zoning of adjacent or nearby areas. The operation of the proposed new facilities would not result in land use changes to nearby properties.</p> <p>Alternative A would generally be consistent with and adhere to the standards of applicable federal, State, and local plans, policies, and regulations. Alternative A would be partially consistent with, and adhere to, local noise or tree canopy requirements.</p>	<p>Impacts on land use and planning policies potentially resulting from Alternative B would be the same as those described for Alternative A.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
<p>Socioeconomics, Environmental Justice and Protection of Children</p>	<p>Alternative A would have no adverse and negligible positive socioeconomic impacts. Alternative A would not have disproportionate long-term impacts on EJ Communities of Concern near the RTC, nor would it have the potential to disproportionately affect children in the short- or long-term.</p> <p>Additional RTC personnel relocating to Prince George’s County, if any, would not noticeably alter the local or regional demography. Implementation of the proposed projects would have a positive economic impact that would continue as each project continues for periods of several months to several years. Such effects would likely remain small in the context of Prince George’s County and the Washington, D.C. metropolitan region.</p> <p>The presence of residential areas, particularly those that may qualify as EJ communities of concern, in proximity to the RTC is an unavoidable condition that has been factored into the planning of the proposed projects. Adverse impacts on adjacent properties from noise and traffic generated by construction and operational activities would be minimized to the extent possible.</p> <p>The large size of Tract 8004.11 and the lack of neighborhoods or other areas within the tract where concentrations of children could be present in proximity to the RTC, would ensure that activities at the RTC would have no effects on children.</p>	<p>Impacts on socioeconomic, EJ communities of concern and children potentially resulting from Alternative B would be the same as those described for Alternative A.</p>
<p>Historic and Archaeological Resources</p>	<p>Alternative A would have no direct impacts on historic buildings or structures at the RTC campus because no known historic buildings or structures are located on the RTC site.</p> <p>The USSS determined that no adverse effect to historic resources would occur</p>	<p>Impacts on historic and archaeological resources resulting from Alternative B would be the same as those described for Alternative A.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>as a result of the 2012 RTC Master Plan. Due to the B-W Parkway's listing in the NRHP, the USSS has coordinated with the NPS during previous Master Plan updates and agreed to develop an official re-vegetation plan to address visibility issues from the Parkway. This interagency coordination effort continues in perpetuity. As a result, Alternative A would result in negligible impacts on historic resources.</p> <p>Alternative A would result in no impacts on archaeological resources. The RTC has no known archaeological resources at or around the campus, and has little potential for existing archaeological resources due to previous disturbance.</p>	
Roadways and Traffic Patterns	<p>Alternative A would have beneficial impacts on circulation patterns and land use patterns at the RTC. Long-term adverse impacts on external roadways and traffic patterns would be minor.</p> <p>Internal roadway improvements would provide greater circulation flexibility; safer alternate circulation paths; make a more effective exercise circuit; enable access to undeveloped portions of the RTC; and provide greater circulation around the campus while reducing conflicts and/or delays from training exercises.</p> <p>Multiple intersections in the vicinity of the RTC would exceed AM and / or PM M-NCPPC peak hour standards the M-NCPPC standard in the AM and/or PM peak hours under Alternative A.</p>	<p>Impacts on the internal roadway network and circulation patterns as well as external roadways and traffic patterns resulting from the implementation of Alternative B would be similar to those described for Alternative A.</p> <p>The USSS has prepared a TMP for the RTC. The RTC has committed to increase the percentage of non-SOV trips by employees and trainees to 14 percent. The implementation and increased use of traffic demand management strategies could further increase the percentage of non-SOV trips up to 18 percent.</p> <p>RTC Transportation Management Guidelines include strategies that could reduce peak hour SOV trips and increase carpools and transit trips to support community and national efforts to reduce traffic congestion and emissions.</p>
Parking	<p>Long-term impacts on parking at the RTC would be negligible.</p> <p>The ratio of employee parking spaces to employees would be 1:1.5, thereby meeting NCPC goals. The proposed parking garage would efficiently meet the increased parking demand from the</p>	<p>Parking impacts potentially resulting from Alternative B would be the same as those described for Alternative A.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>proposed expansion of RTC programs and population; minimize the amount of land needed to accommodate parking; and serve an important training function on the campus. However, spaces might not be available to employees and visitors at all times.</p>	
Public Transit	<p>Alternative A would have no short-term impacts and no or negligible impacts on public transit services operating in the vicinity of the RTC.</p> <p>Alternative A would not require re-routings or cause disruptions or delays to bus service; the temporary relocation or closing of bus stops; or involve construction-related alterations, closings or reroutings of Metrorail or MARC Train stations, trains or tracks.</p> <p>Increases in ridership on public transit services, if any, resulting from increases in the number of personnel assigned to the RTC would remain well within the capacity of those systems.</p>	<p>Impacts on public transit potentially resulting from Alternative B would be the same as those described for Alternative A.</p>
Topography, Drainage, and Soils	<p>Alternative A would have minor short-term impacts on topography and soils, and negligible short-term impacts on drainage. In the long term, Alternative A would have minor impacts on topography, negligible impacts on drainage and minor impacts on soils, with some beneficial soils impacts.</p> <p>Site preparation activities associated with each project would alter the topography of their respective sites but such alterations would remain consistent with the RTC’s gentle to moderate topography. No unique or distinctive topographic features would be altered or lost, as no such features have been documented at or in the vicinity of the RTC.</p> <p>Drainage patterns would remain localized at each site and would be similar to those that currently exist at the RTC. Such changes would not collectively alter site-</p>	<p>Impacts on soils, drainage and topography resulting from the implementation of Alternative B would be similar to those resulting from Alternative A, with additional impacts resulting from the construction of the 38-acre DTF. As with the smaller projects included in both alternatives, the construction of the DTF would result in a generally flat to somewhat sloping site that would be consistent with the overall topographic profile of the RTC. Drainage patterns would not be substantially altered at the RTC or within the surrounding region, and impacts on soils would be mitigated through adherence to applicable BMPs.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>wide drainage patterns at the RTC or within the context of the surrounding region.</p> <p>Construction activities could result in soil compaction and erosion. Soils remaining exposed following the completion of construction activities would be re-vegetated, eliminating the potential for further erosion. The implementation of the proposed projects over a period of several years would minimize the quantity of soils exposed on the RTC at any given time. Clean fill soils with suitable characteristics would be imported to the sites as needed and excavated soils would be reused on-site or disposed of at a permitted off-site facility. Impacts on soils during and following construction would be mitigated through adherence to applicable BMPs. Remediation of lead in soils near the proposed Merletti Building expansion, if necessary, would have a long-term beneficial impact.</p>	
Water Resources	<p>Alternative A would have minor short-term impacts and negligible long-term impacts on water quality, groundwater, and surface water. Short-term impacts on wetlands would also be minor. Long-term impacts on wetlands would be minor and would be minimized through adherence to applicable avoidance, mitigation, compensation and/or other regulatory requirements.</p> <p>Erosion and sediment control measures would be implemented during the construction of the proposed projects to minimize potential impacts on water quality resulting from the erosion of exposed soils and the sedimentation of downstream watercourses. Enhanced BMPs or additional controls may be required to protect Tier II stream resources during and post construction. The expanded Tier II riparian buffer would be applied to intermittent and perennial waters on the RTC and state 401 Water Quality Certification would be obtained.</p>	<p>Impacts on water quality, groundwater and surface water resulting from Alternative B would be similar to those described for Alternative A. Alternative B would have minor short-term impacts and moderate long-term impacts on wetlands. BMPs used to minimize the erosion of exposed soils during construction and the corresponding sedimentation of receiving water bodies would be the same as those described for Alternative A.</p> <p>Impacts on surface water resulting from Alternative B would be limited to a 0.17 acre segment of an ephemeral stream identified as Stream S-5. If the USACE determines that S-5 is an ephemeral stream, the proposed impact on Stream S-5 would require USACE permit authorization under Section 404 of the CWA and MDE authorization under Section 401 of the CWA. Such an impact on Stream S-5 would represent one percent of the total surface water within</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>The phased implementation of the proposed projects over a period of several years would further minimize impacts on water quality.</p> <p>None of the proposed projects would generate pollutants that would contribute to exceedances of TMDLs established for the Anacostia River or its watershed, or cause the degradation of downstream Tier II waters. Projects disturbing 5,000 square feet or more of land would incorporate LID measures to the extent feasible in accordance with Section 438 of the EISA.</p> <p>None of the proposed projects would involve new or increased withdrawals of groundwater or the discharge of pollutants into groundwater during their construction or operational phase. Overall groundwater flow across the site would continue generally south, although highly localized disturbances to or diversions of groundwater flow could occur. Most of the RTC would remain in a permeable condition despite an increase in impermeable surface. Impediments to the infiltration of precipitation and groundwater recharge resulting from increases in impervious surface would be minimal in the context of the surrounding area.</p> <p>The proposed projects do not involve activities in, on, or above bodies of surface water, or the filling, damming, or rechanneling surface water bodies.</p> <p>The proposed projects would require the draining and filling of approximately 0.48 acres of wetlands. Impacts on wetlands would require approval through the Joint Federal/State Application process for the alteration of nontidal wetlands in Maryland. Such impacts would be mitigated by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332) as well as stipulations from federal and state regulatory agencies.</p>	<p>the RTC.</p> <p>Alternative B would permanently impact 4.46 acres of wetlands at the RTC. Site-specific surveys would be conducted as project planning and design continues to confirm the boundaries of wetlands and their associated buffers throughout the RTC and minimize potential indirect and direct impacts on wetlands. Modifications to the design and engineering of roads and/or buildings would be incorporated to the extent practicable in consideration of wetland boundaries and buffers and would be coordinated with federal and state agencies with regulatory jurisdiction.</p> <p>Authorization for the proposed impacts on wetlands and waterways would require a CWA Section 404 Individual Permit from USACE, and a Non-Tidal Wetland and Waterway Permit and CWA Section 401 Water Quality Certification from MDE. Project impacts on waters of the U.S., including wetlands, would be mitigated by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state regulatory agencies. Coordination with federal and state regulatory agencies including USACE and MDE would be required to develop a project-wide compensatory mitigation strategy to offset impacts on wetlands and waterways.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>Coordination with federal and state regulatory agencies including USACE and MDE would be required to develop a compensatory mitigation strategy to offset impacts on wetlands.</p>	
Vegetation	<p>Alternative A would have minor long-term impacts on vegetation at the RTC.</p> <p>The proposed projects would require removal of approximately 35 acres of forest. The implementation of Alternative A would be phased over a period of 10 to 15 years and thus, the reduction in forested area would occur gradually. Reforestation could be implemented where feasible. The proposed forest impacts would require MDNR approval of an FSD and FCP.</p>	<p>Long-term adverse impacts on vegetation resulting from Alternative B would be moderate.</p> <p>The implementation of Alternative B would remove approximately 76 non-contiguous acres of the almost 275 total acres (27.6 percent) of vegetation at the RTC. The removed vegetation would consist of forest, landscape trees and shrubs, and maintained lawn. Forest impacts would require MDNR approval of an FSD and FCP.</p> <p>In most cases the contiguous areas of vegetation removal would be 10 acres or less and would occur at the edges of forested areas. Construction of the DTF would require the removal of approximately 38 contiguous acres of hardwoods, pines and wetland vegetation.</p> <p>The phased implementation of the proposed projects over a period of 10 to 15 years; reforestation of areas of the RTC where feasible; and limiting tree and vegetation removal to specimens absolutely necessary to support the development of each project, would further minimize impacts on trees and vegetation at the RTC.</p>
Wildlife	<p>Impacts on wildlife resulting from Alternative A would remain minor through consultation with MDNR and adherence to applicable mitigation measures.</p> <p>Most of the forest clearing associated with the proposed projects would avoid areas that contain FID bird habitat. Similar habitat would remain on and adjacent to the RTC property. Alternative A would also result in an increase in edge habitat. Specimens of the resident deer</p>	<p>Alternative B would involve the removal of an additional 28 acres of forest at the RTC, for a total of 76 acres that would be cleared to accommodate the proposed projects. However, through consultation with MDNR and adherence to applicable mitigation measures, impacts on wildlife at the RTC would remain similar to those described for Alternative A.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>population at the RTC would be displaced by the proposed projects.</p> <p>No federal RTE species have been documented on the RTC property. The USSS would conduct additional consultation with the MDNR to minimize impacts on state listed RTE species identified at the RTC to the extent practicable.</p>	
Noise	<p>Impacts from noise associated with Alternative A would be minor in the short term and moderate but intermittent in the long term.</p> <p>Construction activities and the movement of heavy trucks would increase ambient noise levels at and in the vicinity of the RTC. The implementation of the proposed projects over 10 to 15 years would minimize any such increases.</p> <p>New facilities supporting firearms training or other noise-emitting activities would generally be located towards the interior of the RTC, thereby minimizing impacts from noise on adjacent properties. Noise generated by activities at the Tactical Training Precinct along the northern side of the RTC would have the potential to cause annoyance to nearby property owners outside the RTC.</p>	<p>Impacts from noise potentially resulting from the implementation of Alternative B would be similar to those described for Alternative A.</p>
Air Quality	<p>The implementation of Alternative A would have minor short-term and long-term impacts on air quality.</p> <p>Construction activities would generate fugitive dust and emissions of criteria pollutants from construction-related equipment and vehicles. Impacts would be minimized through the use of standard BMP and the implementation of the projects over several years.</p> <p>Emissions from construction-related activities, vehicles and equipment would remain well below the applicable <i>de minimis</i> thresholds of criteria pollutants for which Prince George’s County is in</p>	<p>Short-term and long-term impacts on air quality resulting from Alternative B would be similar to those described for Alternative A.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>marginal non-attainment or maintenance. Such emissions would not cause or contribute to any new violations of applicable standards; would not increase the frequency or severity of any existing violation of applicable standards; and would not delay the timely attainment of applicable standards or any other required emission reductions or applicable milestones. Air quality in the vicinity of the RTC would return to pre-project conditions following the completion of the proposed projects.</p> <p>New stationary sources installed as part of the proposed projects, if any, would be permitted in accordance with applicable federal and state regulatory requirements and would not contribute to the deterioration of regional air quality.</p> <p>Adherence to the 1:1.5 employee-to-parking-space ratio and the use of carpooling and other modes of transportation by employees to the RTC would consequently minimize the number of vehicles driven to the RTC and corresponding quantities of automobile emissions. The proposed number of employee parking spaces would generate a relatively negligible increase in the number of employee-operated SOV currently traveling to and from the RTC each day. In addition, the implementation of Alternative A would not result in increases of diesel-fueled vehicles traveling to and from the RTC.</p>	
Utilities	<p>Alternative A would have beneficial long-term impacts on water supply, no long-term impacts on electrical service, and negligible long-term impacts on sewage collection and treatment and natural gas distribution.</p> <p>The proposed projects would result in an increase in water demand; however, the additional demand would not impact local supply. Infrastructure improvements at the RTC would enable the RTC's water</p>	<p>Impacts on utilities potentially resulting from Alternative B would be similar to those described for Alternative A.</p> <p>The proposed improvements would include the installation of a combined elevated water storage tank to provide adequate water pressure and fire protection. Installation of the new tank would include a design that would match the hydraulic grade line of the BARC facilities. The water main along North</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>system to be self-contained and allow for more efficient operation of the water distribution system.</p> <p>The existing electrical system has capacity to accommodate the proposed improvements to the RTC.</p> <p>New sanitary force mains and an increase in pumping capacity of the Main Sanitary Pump Station would handle the expected increase in capacity resulting from the proposed improvements.</p> <p>The existing natural gas distribution system has sufficient capacity to serve the current and projected future needs of the RTC and would be extended as necessary to serve the proposed facilities.</p>	<p>Perimeter Road and/or the South Perimeter Road would loop back to the existing mains near the Knight Building. In addition, a four-inch gas supply line would be extended along the western portion of the loop road in the Dynamic Training and Support precinct and throughout the western portion of the site in the Tactical Training Precinct.</p>
Stormwater Management	<p>In the short term, impacts on stormwater management resulting from Alternative A would be minimized through adherence to applicable BMP during construction activities, which would minimize or eliminate sedimentation of receiving water bodies.</p> <p>In the long term, impervious surface coverage at the RTC would increase from 11 to 19 percent of the RTC's total area. Adherence to methods outlined in the concept plan for stormwater controls would minimize long-term impacts on stormwater management. Such methods would include the use of permeable pavement, disconnection of rooftop and non-rooftop runoff, rainwater harvesting, swales, and other measures.</p>	<p>Impacts on stormwater management and applicable minimization measures for Alternative B would be similar to those described for Alternative A. However, impervious surface coverage at the RTC would increase from 11 to 19 percent of the RTC's total area.</p>
Sustainability	<p>Alternative A would have minor short-term and long-term impacts on sustainability, with some long-term beneficial impacts resulting from energy efficiency improvements.</p> <p>The use of fossil fuel-burning construction vehicles and equipment and the consumption of building materials requiring the use of fossil fuels for preparation and transport would not</p>	<p>Impacts on sustainability potentially resulting from Alternative B would be similar to those described for Alternative A.</p>

Resource	Impacts of Alternative A – Implement the 2012 Master Plan	Impacts of Alternative B – Implement the 2017 Master Plan Update
	<p>persist beyond the construction phase.</p> <p>LID measures would be implemented to reduce runoff, improve water quality and somewhat offset the increased development and corresponding increase in impervious area. All major renovation and new construction projects would be designed to meet LEED Silver standards at minimum, which could decrease building energy use and increase energy efficiency. Upgraded utilities also have the potential to improve energy efficiency.</p>	
Hazardous Materials	<p>Impacts from hazardous waste resulting from Alternative A would have minor short-term and long-term impacts, with some potentially beneficial impacts.</p> <p>Construction activities would have the potential to disturb contaminated soils near the Merletti Building and expose workers on the site to hazardous substances. However, the remediation of hazardous materials currently present in the soils in this area would represent a positive outcome.</p> <p>The scope of training activities would increase at the RTC under Alternative A, subsequently increasing the hazardous waste stream. A portion of the waste, including lead bullets, would continue to be recycled. All hazardous waste would be monitored by a State-licensed hazardous waste firm to ensure its proper handling, packaging, shipping and disposal.</p>	<p>Impacts from hazardous materials potentially resulting from Alternative B would be similar to those described for Alternative A.</p>
Coastal Zone Management	<p>The USSS has determined that the projects included in Alternatives A and B would be consistent to the maximum extent practicable with the enforceable policies of Maryland’s CZMP.</p> <p>The action alternatives have been designed to avoid natural resources to the greatest extent possible. The USSS has developed a stormwater management plan in conjunction with the 2012 and 2017 RTC Master Plans to ensure that the proposed projects comply with Section 438 of the EISA. The USSS would also submit erosion and sediment control plans to MDE for the proposed projects as they are undertaken. In addition, the USSS would implement LID measures and all facilities would be designed to meet LEED Silver standards, or higher.</p>	

Cumulative Impacts

Cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. They are considered within this analysis so that the environment impacts of the proposed action are not viewed in isolation, but are understood within the context of other ongoing or planned changes.

Recently completed, ongoing, and planned projects in the vicinity of the RTC have the potential to result in cumulative impacts when considered together with the impacts of the implementation of the proposed 2017 RTC Master Plan Update. The following list represents the approved development in the site vicinity, and thus gives an indicator of potential future cumulative impacts. As identified within the Transportation Impact Study, planned projects include the following:

- *Rosso Property*: located near the intersection of Beaver Dam Road and Springfield Road south of the RTC, this project is comprised of 31 single-family residences.
- *Glendale North*: located east and west of Springfield road one-quarter mile north of Lanham Severn Road south of the RTC, this project is comprised of 31 single family residences.
- *Sylla Business Park*: located on Laurel Bowie Road north of the RTC, the park includes 16,000 square feet of office space and a 72-room hotel.
- *Emmanuel Baptist Church*: located on Laurel Bowie Road north of the RTC, the plans for the Emmanuel Baptist Church are comprised 18,600 square feet.

Land Use and Planning Policies- Because no changes to land uses on the site would occur, cumulative impacts on land use would be negligible. Cumulative impacts on planning policies would also be negligible.

Socioeconomics, Environmental Justice and Protection of Children – The proposed projects would have beneficial impacts on socioeconomic conditions in the vicinity of the RTC, and would have no impacts on EJ communities of concern or populations of children. Commercial projects occurring in the vicinity of the RTC would similarly have beneficial socioeconomic impacts in the surrounding community. Therefore, the proposed projects would contribute to cumulatively beneficial impacts on socioeconomics, and would have no potential to contribute to cumulatively adverse impacts on EJ communities of concern or populations of children.

Historic Resources- Because changes on the RTC campus would have no direct impact on historic resources and vegetation would buffer views from the B-W Parkway of development at RTC, impacts on historic resources would be negligible. Cumulative impacts on cultural resources would also be negligible.

Archaeological Resources- No known archaeological sites are located on or around the RTC campus, resulting in a low archaeological potential at the site and no adverse impacts. As a result, no cumulative impacts on archaeological resources would occur.

Roadway and Traffic Patterns- The traffic study conducted in 2012 for the implementation of the 2012 RTC Master Plan is still applicable to the 2017 RTC Master Plan Update. This study included the traffic generated by the cumulative projects as part of the background traffic conditions. The background traffic conditions, including cumulative projects, would be very similar to those of Alternative B, except for a decline in the northbound direction at the unsignalized intersection of Springfield and Powdermill Roads. Therefore, the impact of Alternative B, when considered together with planned projects in the area, would

result in a minor long-term cumulative impact on roadways and traffic patterns. For additional detail, see Section Roadway and Traffic Pattern Impacts above.

Parking- Alternative B, when considered together with the other planned projects in the area, would result in negligible cumulative impacts on parking supply and demand.

Public Transit – The proposed projects would generate no or only very small increases in demand on public transit services operating in the vicinity of the RTC. Any such increases in demand would be within the existing capacity of those services. Similarly, it is likely that projects occurring in the vicinity of the RTC would generate no or very small increases in demand on public transit, and that any such increases would remain within the existing capacity of those services. Thus, there would be no or negligible cumulative impacts on public transit.

Topography, Drainage and Soils- Due to the distance between the RTC and the other proposed projects in the area, short- and long-term cumulative impacts on topography, drainage and soils would be negligible.

Water Resources- As Alternative B would have negligible long-term impacts on water quality, surface water and groundwater, it would contribute to negligible cumulative impacts on those resources. If projects occurring in the vicinity of the RTC were to adversely affect waters of the U.S., including wetlands, it is anticipated that Alternative B would contribute to cumulative minor or moderate impacts on wetlands in the area. All projects would be required to comply with CWA Section 404/401 and/or the Maryland Nontidal Wetlands Protection Act, through which mitigation for wetland impacts may be required by USACE and/or MDE.

Vegetation- Alternative B would have moderate long-term adverse impacts on vegetation due to the removal of approximately 76 non-contiguous acres of forested area. If the proposed projects in the surrounding area also require the removal of forest, the 2017 RTC Master Plan Update could contribute to moderate cumulative impacts on vegetation. Mitigation and minimization measures including the planting of trees elsewhere on the RTC would occur. Additionally county and state stewardship practices would be followed; therefore, together, impacts on vegetation would not be considered significant.

Wildlife- Under Alternative B, there would be minor adverse impacts on wildlife due to the loss of FID habitat. If the other projects also remove FID habitat, this could result in a minor adverse cumulative impact on wildlife.

Noise- Alternative B would result in short-term minor adverse impacts on noise levels during construction. If the construction of projects under the 2017 RTC Master Plan Update occur at the same time as the Sylla Business Park and the Emmanuel Baptist Church, both in the closest proximity to the RTC, this could result in a minor to moderate short-term cumulative impact on noise in the area.

Air Quality – The proposed projects would have minor impacts on air quality from the operation of emissions sources and the generation of increased vehicular traffic. Projects occurring in the vicinity of the RTC would also emit pollutants, albeit in relatively small quantities, and generate increased volumes of traffic. Thus, cumulative impacts on air quality would be minor.

Utilities- Overall, impacts on utility service on the RTC site as a result of the Alternative B are anticipated to be negligible to beneficial. The proposed projects in the area, when considered together with

implementation of the 2017 RTC Master Plan Update should not adversely impact supply. Thus, cumulative impacts are anticipated to be negligible.

Stormwater- Impacts on stormwater as a result of the implementation of the 2017 RTC Master Plan Update are anticipated to be beneficial, as stormwater controls would be implemented with each of the projects and existing deficiencies would be improved. It is assumed that the other projects in the surrounding area would also employ stormwater controls and thus would not result in adverse impacts on stormwater management over the long-term. If the cumulative projects improve stormwater management conditions on their respective sites, this could result in a beneficial cumulative impact on stormwater.

Sustainability- Alternative B would result in minor adverse impacts on sustainability due to increased vehicle trips to the site. If the other projects in the area also result in an increase in vehicle trips, this could result in a minor cumulative impact on sustainability in the area.

Hazardous Materials- Short and long-term cumulative impacts on hazardous materials as a result of the Proposed Action Alternative are anticipated to be minor. If the proposed projects result in the short-or long-term generation of hazardous materials, the 2017 RTC Master Plan Update could contribute to a minor adverse impact on hazardous materials in the area.

Coastal Zone Management- Compliance with Coastal Zone Management policies would be accomplished as individual projects are undertaken. An assessment of other relevant projects within the surrounding area would be undertaken at the time.

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