



Cinder Bed Road Bikeway Conceptual Alignment Study

FINAL Report

November 2016

Project #AA1400137-2015

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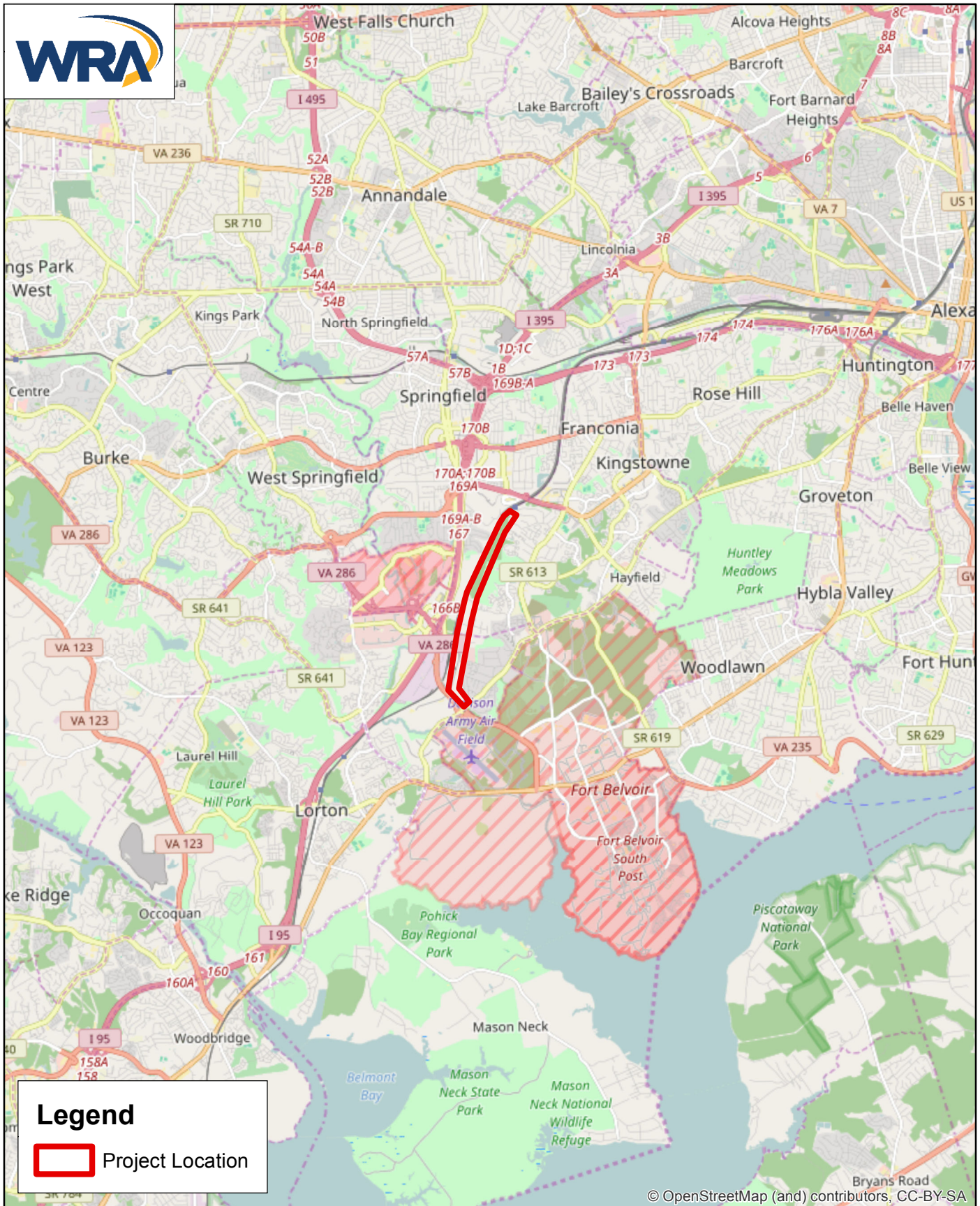
Purpose of Study

The purpose of this study is to evaluate alternatives for bicycle facilities along Cinder Bed Road to provide access from the Franconia Springfield Metrorail Station to the Fairfax County Parkway Trail and existing bike lanes along Telegraph Road. The project would provide bicycle access from Fort Belvoir to the Franconia-Springfield Metro Station and Virginia Railway Express (VRE). The project is approximately 3.1 miles in length and is being funded with a Transportation Alternatives Program (TAP) grant. Projects funded under TAP must comply with all applicable federal requirements.




Bicycles of Patrons of the Franconia-Springfield Metrorail Station

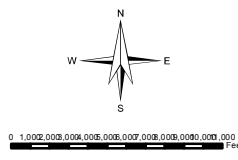
The study will evaluate on-road bicycle facilities, off-road bicycle facilities, and a combination of both on-road and off-road bicycle facilities. The report describes and evaluates the conceptual alternatives based on project feasibility, constructability, and cost.



Legend

 Project Location

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WRA Project No.: 45903-014	 <p>0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000 Feet</p> <p>1 inch = 10,000 feet</p>	Title: Cinderbed Bikeway Alignment Study Fairfax County, Virginia	Figure: Location Map
Client: Fairfax County Department of Transportation		Source: ESRI Open Street Map	
Date: 10/06/2016			

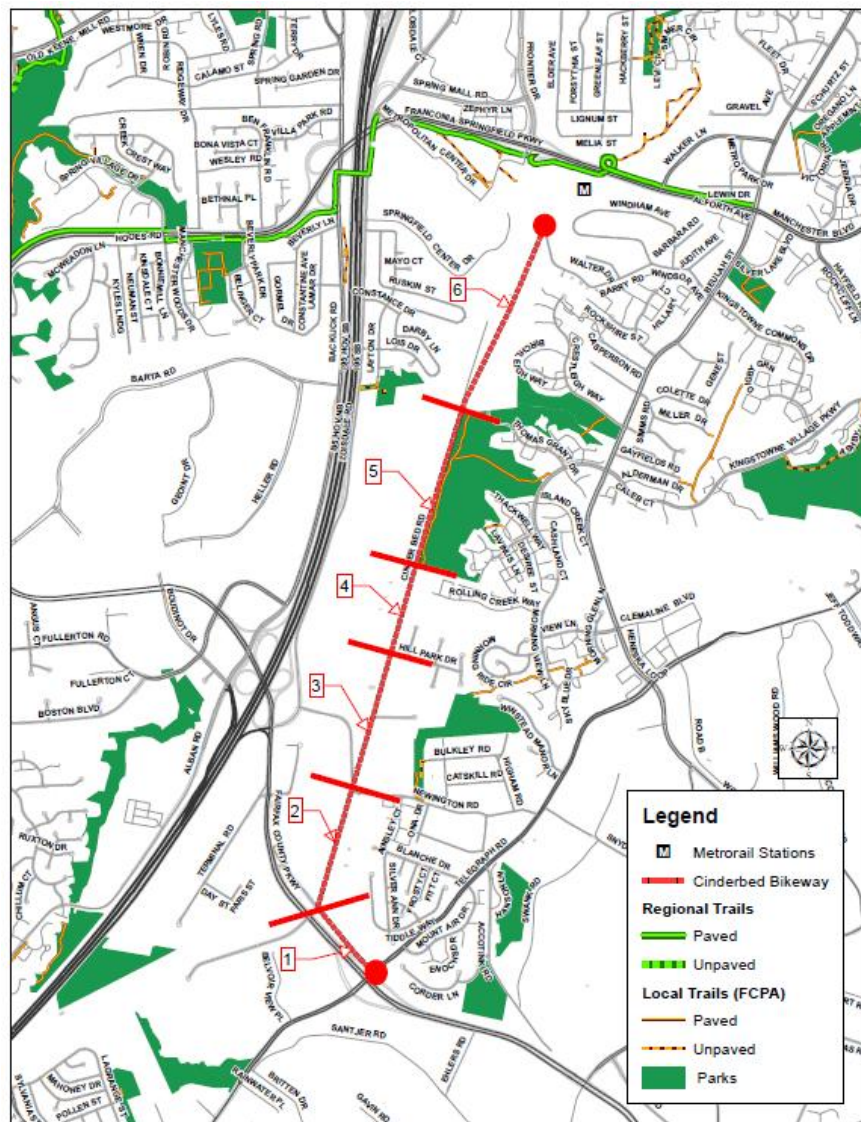
Existing Conditions

The project is located in the Newington/Springfield section of Fairfax County (See Location Map, Page 2). The southern end of the project terminates at the intersection of Telegraph Road and the westbound ramps to/from the Fairfax County Parkway. A user of the proposed Cinder Bed Road Bikeway would be able to continue to travel on bicycle facilities by either using the existing bike lanes or shared use path along Telegraph Road or using the existing Fairfax County Parkway Trail.



Southbound Telegraph Road approaching Fairfax County Pkwy.

The project study has divided the corridor into six segments and are described below.



Segment 1: Backlick Road (Telegraph Road to Cinder Bed Road)

The project limits end at the intersection of Telegraph Road and the westbound ramp for the Fairfax County Parkway. This portion of Backlick Road parallels the Fairfax County Parkway WB entrance ramp to access the Fairfax County Parkway and terminates just prior to Telegraph Road (no vehicular access to and from Backlick Road is permitted onto Telegraph Road or the Fairfax County Parkway ramp). There are striped bike lanes on Telegraph Road north of the intersection of Telegraph Road and Fairfax County Parkway westbound ramp as well as a shared use path on the west side of Telegraph Road. There is also an existing shared use path along the north side of the Fairfax County Parkway, which diverts from the roadway at Telegraph Road and continues intermittently along Backlick Road for approximately 3000 feet until reconnecting at the intersection of Fairfax County Parkway and Backlick Road. The proposed Cinder Bed Road Bikeway intends to connect to the existing bike lanes and shared use paths at the intersection of Backlick Road and Telegraph Road.



Dead-end of Backlick Road at Telegraph Road



Backlick Road facing east toward Cinder Bed Road

The Backlick Road portion of the project is approximately 1,600 feet in length. The roadway is mainly an open-section roadway except for short sections with curb and gutter and one portion with curb, gutter, and a curb-abutted 8-foot wide asphalt path. The roadway has one lane in each direction with unmarked turn lanes and variable existing pavement width. This portion of roadway includes a major box culvert conveying Long Branch.

Segment 2: Cinder Bed Road (Backlick Road to Newington Road)



Cinder Bed Road facing north



Fort Belvoir Railroad Spur Bridge

The section of Cinder Bed Road from Backlick Road to Newington Road consists of one northbound lane with a shoulder and two southbound lanes with curb, gutter, sidewalk, and lighting. Cinder Bed Road narrows to one lane in each direction with no pedestrian facilities at the existing bridge for the military railroad spur to Fort Belvoir. This segment of Cinder Bed Road has a posted speed limit of 45 mph.

Segment 3: Cinder Bed Road (Newington Road to Hill Park Drive)

The intersection of Cinder Bed Road and Newington Road is currently being reconfigured to improve traffic operations and safety. The improvements to the intersection propose a shared use path along the east side of the shared portion of Newington Road / Cinder Bed Road within the project limits. The new connection of Cinder Bed Road is proposed to have an asphalt walkway along the east side of the roadway within the project limits that connects to existing concrete sidewalk facilities.



Cinder Bed Road north of Newington Road

North of the intersection with Newington Road, Cinder Bed Road is a two-lane roadway with curb, gutter, sidewalk and a wide parking lane along the northbound lane and open-section with no shoulder along the southbound lane. The posted speed limit for this segment of Cinder Bed Road is 35 mph.

Segment 4: Cinder Bed Road (Hill Park Drive to cul-de-sac)

This segment of Cinder Bed Road is a very narrow two-lane, open-section roadway with no defined roadside ditch. In locations of newly developed parcels, the frontage along Cinder Bed Road has curb, gutter, sidewalk, and a parking lane. Cinder Bed Road ends in a cul-de-sac.



Cinder Bed Road north of Hill Park Drive

Segment 5: Existing FCPA Paved Trail

This section consists of the existing 8-foot wide asphalt path which begins at the Cinder Bed Road cul-de-sac and continues for approximately 0.5 miles through Fairfax County Park Authority (FCPA) property. The existing asphalt path generally runs along the edge of the existing 100-year floodplain for Long Branch. The existing park trail ends at the park's property line.



Fairfax County Park Authority Asphalt Trail

Segment 6: Paved Trail Extension

This section is located between the terminus of the existing FCPA paved trail and the end of Barry Road (where the existing Franconia-Springfield Metrorail Station Metro Path currently terminates). This section is currently wooded, is adjacent to Long Branch, and is located on property owned by the Amberleigh Homeowner Association, Inc. and private parcels. This section will connect the proposed bikeway to the existing Metro Path that is located on the east side of the railway and connects to the cul-de-sac at the end of Barry Road.



Existing Franconia-Springfield Metro Path

Design Criteria

The project is being funded with a Transportation Alternatives Program (TAP) grant. Projects funded under TAP must comply with all applicable federal regulations, standards, and requirements. The design will be developed using AASHTO's *Guide for the Development of Bicycle Facilities*, 2012, Fourth Edition. Backlick Road and Cinder Bed Road are owned and maintained by VDOT; therefore, the project will comply with the design criteria detailed in the Virginia Department of Transportation (VDOT) Road Design Manual (RDM), latest edition, all relevant VDOT Instruction and Informational Memoranda (IIM), and the VDOT Road and Bridge Standards.

Where design standards cannot be met, appropriate design waivers will be pursued. For shared use paths, VDOT requires an eight-foot wide separation from the face of curb to the edge of a shared use path in order to meet the lateral offset to install signs for the roadway. It is not uncommon for a shared use path project to require a design waiver for a substandard buffer width due avoidance of environmentally sensitive areas, major utilities and/or structures, or right of way impacts and the cost associated with meeting the standard (versus the total project cost). It is likely that a design waiver for this project will be required for spot reductions in the buffer width due to the presence of existing utilities, box culverts, and environmentally sensitive areas.

Site and Design Constraints

Cinder Bed Road generally runs parallel to the existing CSX Transportation Railway and is relatively flat within the project limits.

Fort Belvoir Railroad Spur Bridge over Cinder Bed Road



Existing Fort Belvoir Railroad Spur Bridge

accommodate either bike lanes or a shared use path.

The Fort Belvoir Railroad Spur Bridge only provides access for one travel lane in each direction. The study reviewed several alternatives for providing access for bicyclists in this location including: merging the cyclists to share the lane under the bridge with vehicles, providing a separate opening under the railway for either bike lanes or a shared use path, or removing the bridge as part of the project to provide the width necessary to

Merging cyclists with vehicles to a shared lane to pass under the railroad bridge is not recommended. The existing bridge does not provide adequate width to provide wide lanes or paved shoulders to safely accommodate bicyclists sharing the roadway with vehicles given that this section of Cinder Bed Road has an ADT (Average Daily Traffic) of 9,300 vehicles per day with 5% truck traffic and 4% bus traffic (VDOT considers more than 2% truck traffic as high truck traffic).



Casho Mill Road Pedestrian Underpass, Newark, Delaware

Another option is to provide an additional opening for bicycle and pedestrian facilities similar to the photograph shown to the left (except for limiting vehicular traffic to one way at a time). This underpass option would be more feasible for use with a shared use path than for use with bike lanes. Cost and complexity of constructing an opening for a bicycle facility as well as maintenance costs must be considered in determining the feasibility of this option. The poor condition of the existing bridge and planned future usage of the Railroad spur must also be reflected in the alternative selection.

A third option is to remove the existing railroad spur bridge. This bridge is listed as historic and the rail spur is owned by the Department of the Army according Virginia Department of Historic Resources (DHR) records. Removal of the bridge would require considerable coordination with and approval from the DHR including Phase I and Phase II Archeological/Architectural Studies for the project area for an effect determination and subsequent mitigation if required. However, bridges for the same rail spur have been removed in recent years for the Telegraph Road Widening project and, more recently, the Route 1 Widening project setting a precedent for removal of the rail spur bridges. Because this option would not only maintain the continuity of the proposed typical bikeway section, but also improve safety for vehicles traveling along Cinder Bed Road by removing the existing concrete bridge abutments within the clear zone, the removal of the existing railroad spur bridge is the recommended preferred option.

Long Branch Floodplain

The additional width required to accommodate a bicycle facility will impact crossings of Long Branch, which will require either the extension of existing culverts or providing new culverts or bridges to convey Long Branch. This will result in the need to perform hydrologic and hydraulic analysis of these crossings to ensure that the project does not result in adverse impacts to the 100-year floodplain.

Environmental

When there is a federal action (i.e., use of federal funds), then a project must satisfy the requirements of the National Environmental Policy Act (NEPA). As a federally-funded project, the Cinder Bed Road Bikeway project would likely meet all of the Programmatic Categorical Exclusion (PCE) Documentation Qualifying Conditions and Criteria set forth in the Programmatic Agreement for Approval of Certain Categorical Exclusions (CE) between FHWA and VDOT (May 1, 2013).

Cultural Resources

Based on the DHR Virginia Cultural Resource Information System (V-CRIS), the following National Register of Historic Places (NRHP) listed, eligible, or potentially eligible historic architectural and archaeological resources were identified within the proposed project area:

- Fort Belvoir Military Railroad Historic Corridor (DHR ID: 029-5724);
- A railroad bridge that is associated with Fort Belvoir Military Railroad Historic Corridor (DHR ID: 029-5431); and
- Telegraph Road Prehistoric (Camp, Lithic workshop) (DHR ID: 44FX0457).

In addition, one architectural and several archaeological resources were located in the vicinity of the proposed project site; these sites have not been evaluated by DHR. During project development, to satisfy the requirements of Section 106 of the National Historic Preservation Act, direct coordination with the DHR will be required to evaluate possible effects to the archaeological and architectural resources.

Section 4(f)

The Department of Transportation Act (DOT Act) of 1966 included a special provision - Section 4(f), which stipulated that the Federal Highway Administration (FHWA) and other DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply:

- There is no feasible and prudent alternative to the use of land, and the action includes all possible planning to minimize harm to the property resulting from use; or
- The use of the Section 4(f) property, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a de minimis impact on the property.

As noted above, several historic resources and one park, Island Creek Park, have been identified within the vicinity of the project limits. Coordination with VDOT and FHWA will be necessary to determine Section 4(f) applicability.

Natural Resources

Section 404 of the Clean Water Act typically requires that waters of the U.S., including wetlands, be identified and delineated as a part of the permit process. Data obtained from the US Geological Survey (USGS), Natural Resources Conservation Service (NRCS), and National Wetland Inventory (NWI) depict stream systems typical of the upper limits of the Atlantic Coastal Plain, including Long Branch. Based on aerial photography, the surrounding land use is residential, commercial and undisturbed forest.

The study area drains to Long Branch which flows into the Accotink Creek, the Potomac River, and ultimately the Chesapeake Bay. The USGS recognizes the study area within the Middle Potomac-Anacostia watershed, which is in hydrological unit code (HUC) 02070010. Overall, the study area drains from the north to south and is located within the middle to lower reaches of the drainage basin.

The NWI “Wetland Mapper”, depicts features classified as riverine (R) systems and Palustrine Forested (PFO) wetlands within the project site. The wetlands are generally located in the undisturbed forested areas and adjacent to the riverine systems. Streams and wetlands were not field verified as part of this study. A wetland and stream delineation would need to be conducted in the field in order to identify jurisdictional features. Identification of potential jurisdictional features will help determine possible impacts to wetlands and streams. The wetland delineation would determine the extent and type of wetlands, type of permit, and if any potential mitigation would be required.

Based on the proposed scope of the project, there is the potential for impacts to wetlands and streams. If the project impacts wetlands and streams, a permit from the United States Army Corps of Engineers (USACE), DEQ and/or Virginia Marine Resource Commission may be required.

Soils

Fairfax County NRCS Soil Survey soil units have been mapped within the study area. Based on a review of best available soil data, one hydric soil unit, (Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded (30A)), have been mapped in the study area. The hydric soil units are associated with headwater systems feeding the Long Branch watershed. The drainage class for Codorus and Hatboro soils is considered poorly drained to somewhat poorly drained.

Wildlife

To ensure the protection of listed federal and/or state threatened and endangered species, a preliminary desktop analysis was conducted. On October 27, 2016 a search of the US Fish and Wildlife Service’s online Information, Planning and Consultation (IPaC) system, Virginia Department of Game and Inland Fisheries (VDGIF) Virginia Fish and Wildlife Information Service (VAFWIS) database, and Virginia Department of Conservation and Recreation’s Division of Natural Heritage (DCR-DNH) database indicated that listed species may be affected by the project.

The following threatened and endangered species have been known to occur within Fairfax County and have been confirmed as being in the vicinity of the project area:

- IPaC system listed one federally-protected mammal species, the northern long-eared bat (*Myotis septentrionalis*), as potentially inhabiting areas in the vicinity of the study area.

- A 2-mile search radius of the VaFWIS database indicated that the state listed endangered tri-colored bat (*Perimyotis subflavus*) and state listed threatened wood turtle (*Glyptemys insculpta*) have been confirmed in the vicinity of the study area. No threatened or endangered waters are located within the study area.
- A search of the DCR-DNH database indicated that the federally threatened and state endangered small whorled pogonia (*Isotria medeoloides*), and state threatened wood turtle have been confirmed within the Middle Potomac-Anacostia-Occoquan watershed (HUC: 02070010). Specifically sub-watershed PL30-Accotink Creek-Gunston Cove was searched.
- A review of The Center for Conservation Biology-Virginia Eagle Nest Locator indicated that no Bald Eagle nest are located within 660' of the alignments. Also, the project is not located within a Bald Eagle Concentration Area, according to the USFWS Virginia Field Office's Bald Eagle Map Tool.

Based on this review, time of year restrictions may be necessary to avoid impacts to these species. Coordination with USFWS, VDGIF, and DCR-DNH will be required during project development to have an effect/no effect determinations made.

Resource Protection and Resource Management Areas

Fairfax County is one of many counties within Tidewater Virginia that falls under the requirements of the Chesapeake Bay Preservation Act (CBPA). The CBPA regulations protect and improve the water quality of the Chesapeake Bay, its tributaries and other state waters by minimizing the effects of human activity upon these waters. The CBPA places the responsibility of planning and implementing policy on the local governments. The regulations and requirements for conducting ground-disturbing activity in these areas vary depending on the entity responsible for or funding the activity. Fairfax County defines RPAs as “tidal wetlands; non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow; tidal shores; and other lands considered by the local government that have intrinsic water quality value due to ecological and biological processes they perform or that are sensitive to impacts. In addition, there is a required buffer of not less than 100 feet adjacent to these lands.” The County defines RMAs as component of the Chesapeake Bay Preservation Area comprised of lands that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area. The majority of this project is in a designated RPA and coordination with Fairfax County will be necessary.

Hazardous Materials

The Virginia Department of Environmental Quality (DEQ) Virginia Environmental Geographic Information System (VEGIS), identified four petroleum release sites and six registered tanks within approximately one hundred feet of the alignment. Because property/easement acquisition will be part of this project, further investigations will be necessary.

Utilities

A major cost and scheduling constraint will be the impact of utilities along the project corridor. A subsurface analysis will be required to determine the extent at which potential construction will impact

the existing utilities. Both power lines and street lights run parallel to Cinder Bed Road between Backlick Road and Hill Park Drive. The construction of a shared use path or widening for bike lanes will impact these existing utilities. Also, there are two major Dominion Virginia Power overhead transmission tower crossings that will require coordination during the course of design. It is not anticipated that these lines will be impacted, but OSHA standards and DVP guidelines will need to be considered throughout the design and construction of the project.

Description of Alternatives

The study analyzed several alternatives including a shared use path along the entire corridor, bike lanes along existing roadway segments within the corridor and shared use paths along other segments, the use of shared lanes within the existing roadway segments, and a road diet to reduce number of lanes and provide bike lanes on the roadway where the existing roadway segment has more than one lane in one direction. The alternatives were developed using Fairfax County GIS; no topographic or property surveys were performed for this study.

Alternatives that advanced to further study include:

Alternative 1 (Off-road Facility)

Alternative 1 consists of the use of shared use paths as the bikeway. A shared use path is physically separated from motorized vehicular traffic and can either be located within the roadway right-of-way or within an independent right-of-way. Shared use path users are not limited to bicyclists and may include walkers, runners, in-line skaters, pedestrians with baby strollers, as well as bicyclists.

Alternative 1 includes a proposed shared use path along the north side of Backlick Road. This option will require retaining walls to accommodate the shared use path. In addition, providing the width to accommodate the proposed shared use path will require extending the existing box culvert conveying Long Branch under Backlick Road. Although the addition of a shared use path along the north side of Backlick Road will be expensive, it will enhance the connectivity of the Fairfax County Parkway trail. Along this segment of Backlick Road, the Fairfax County Parkway trail is diverted to the North side of Backlick Road until it reconnects approximately 3000 feet downstream. This segment of trail is currently the only portion along this Backlick Road connection that does not have a separate off-road bicycle facilities.

Along Cinder Bed Road, the proposed shared use path would be located along the east side of the roadway between Backlick Road and Newington Road. At the intersection with Newington Road, the proposed facility would include the newly constructed shared use path that is part of the reconstruction of the intersection of Newington Road and Cinder Bed Road. The proposed shared use path would then start again along the west side of Cinder Bed Road and continue until the end of the roadway at the existing cul-de-sac. The proposed facility would connect to the existing Fairfax County Park Authority 8-foot wide asphalt path. There are approved development plans (Long Branch Property) for the parcel north of FCPA property; the development plan includes a proposed 10' public asphalt trail generally running along Long Branch. It is anticipated that the parcel will be developed before the Cinder Bed Road Bikeway project is constructed. Therefore, the use of the proposed 10' public asphalt trail is included in the Cinder Bed Road

Bikeway alignment. Beyond the Long Branch Property, the facility would include a new segment of 10-foot wide shared use path to connect to the cul-de-sac at Barry Road.

The conceptual cost estimate for Alternative 1 (Off-road facility) is \$8.6 Million. The conceptual cost estimate breakdown is included in Appendix B.

Alternative 2 (On-road Facilities)

Alternative 2 consists of the use of bike lanes along Backlick Road and Cinder Bed Road. With use of curb and gutter, a five-foot wide bike lane (from edge of travel way to edge of gutter pan) is recommended. VDOT does not permit bike lanes to be delineated within the limits of the required paved shoulders; therefore, in the open-section areas of our project corridor, full shoulders will be required to be provided. In areas where there is an existing parking lane, the bike lane will be placed between the travel lane and the parking area and will have a minimum width of five feet. At the end of the Cinder Bed Road cul-de-sac, the proposed bikeway would then connect to the existing Fairfax County Park Authority 8-foot wide asphalt path and to the proposed Long Branch Property 10' public asphalt trail (as described in the Alternative 1 section). Beyond the Long Branch Property, the facility would include a new segment of 10-foot wide shared use path to connect to the cul-de-sac at Barry Road.

The conceptual cost estimate for Alternative 2 (On-road facility) is \$7.8 Million. The conceptual cost estimate breakdown is included in Appendix B.

Alternative 3A (Combination of Off-road and On-road Facilities)

Alternative 3A includes the use of shared-lane marking or sharrows for Segment 1 (portion along Backlick Road). The proposed users of the bikeway would share the lanes with vehicles for this segment of roadway. This alternative proposes to use shared-lane markings or sharrows to alert motor vehicle drivers to the potential presence of bicyclists.

Along Segment 2 and Segment 3, this alternative proposes to remove one of the southbound lanes on Cinder Bed Road and provide one lane in each direction with a striped bike lane in each direction. This option proposes to use the existing pavement width to provide vehicular and bicycle lanes and would require minimal roadway widening. Along the east side of the roadway in Segment 3, the bike lanes will be adjacent to the parking lane. As with Alternative 2, the bike lane will be placed between the travel lane and the parking area and will have a minimum width of five feet. Along the west side of the roadway, the open-section will require that the full shoulders be constructed in addition to the proposed bike lanes.

At the end of the Cinder Bed Road cul-de-sac, the proposed bikeway would then connect to the existing Fairfax County Park Authority 8-foot wide asphalt path and to the proposed Long Branch Property 10' public asphalt trail (as described in the Alternative 1 section). Beyond the Long Branch Property, the facility would include a new segment of 10-foot wide shared use path to connect to the cul-de-sac at Barry Road.

The conceptual cost estimate for Alternative 3B (Combination of Off-road and On-road Facilities) is \$5.1 Million. The conceptual cost estimate breakdown is included in Appendix B.

Alternative 3B (Combination of Off-road and On-road Facilities)

Alternative 3B differs from Alternative 3A only in Segment 1 (Backlick Road from Telegraph Road to Cinder Bed Road). This portion of the proposed bikeway for Alternative 3B includes a proposed shared use path along the north side of Backlick Road. As described in Alternative 1, a shared use path along the north side of Backlick Road will require retaining walls to accommodate the shared use path. In addition, providing the width to accommodate the proposed shared use path will require extending the existing box culvert conveying Long Branch under Backlick Road. The remaining portion of the proposed bikeway for Alternative 3B is the same as described above for Alternative 3A.

The conceptual cost estimate for Alternative 3B (Combination of Off-road and On-road Facilities) is \$5.9 Million. The conceptual cost estimate breakdown is included in Appendix B.

Stormwater Management

The proposed shared use path will run parallel to Long Branch and a significant portion of the path will be in the stream's 100 year flood plain. Long Branch drains to Accotink Creek and eventually into the Potomac River. This project will disturb approximately six acres of land and will construct approximately three acres of impervious surface. As to be expected with a shared use path, the project area has a long and narrow footprint, approximately 20-30 feet wide adjacent to Cinder Bed Road and 12 feet wide through Island Creek Park. This limited project area restricts or eliminates the use of most stormwater management BMPs without the acquisition of additional right-of-way.

The post-development total phosphorus load reduction requirement for this project is approximately 5 lb/yr. Under the VSMP regulations, off-site nutrient credits can be used to meet the required phosphorus reduction for projects with a reduction requirement of less than 10 lb/yr. We recommend purchasing credits to meet the entire water quality requirement for this project.

The Long Branch watershed has an area of approximately 4.9 sq mi at the southern end of the project area. The project is expected to have a number of drainage outfalls over the length of the project, all of which will drain to Long Branch. Due to the small foot print of the project area, none of these outfalls will have a drainage area larger than 1% of the Long Branch watershed at the point of connection and no analysis or improvement of Long Branch will be necessary. All of the stormwater conveyance structures constructed for this project will be designed to convey the 2-year storm without causing erosion, and to contain the 10-year storm without causing localized flooding. No onsite stormwater management BMPs will be needed to meet the water quantity requirements of the project.

Right-of-way and Easements

Based on Fairfax County GIS information, a proposed bike facility would require right-of-way acquisition in several locations along Cinder Bed Road depending on the selected alternative. The portion of the bike facility that proposes to use the existing trail through FCPA would require a Proposed Trail Easement for FCDOT to maintain the facility and well as for the portion of the proposed shared use path on private property. Temporary Construction Easements will be required for the construction of the proposed bike facility. Coordination with VDOT, FCPA, utility companies, and property owners will be required.

Conceptual Right of Way and Trail Easement Takes (SF)				
	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3A</i>	<i>Alternative 3B</i>
Segment 1	5670	0	0	5670
Segment 2	3730	0	0	0
Segment 3	1990	1905	0	0
Segment 4	7515	480	480	480
Segment 5	45805	45805	45805	45805
Segment 6	60885	60885	60885	60885
TOTAL	125595	109075	107170	112840

**Note: Areas are conceptual by nature and are based on Fairfax County GIS information.*

Table 1.1: Conceptual Right of Way and Trail Easement Alternative Comparison

Recommended Alternative

Alternative 1 proposes the use of a shared use path for the proposed Cinder Bed Road Bikeway facility. The use of a shared use path along the entire corridor will provide continuity for the user of the facility and provides continuity for the transitions into existing facilities (Franconia-Springfield Metro Path, Fairfax County Parkway Trail, and the shared use path along Telegraph Road). Providing a shared use path along the north side of Backlick Road completes a missing link of the Fairfax County Parkway Trail.

Cinder Bed Road carries a high volume of trucks (5%) and buses (4%). The use of an off-road facility (i.e. shared use path) will separate the motorized traffic from the users of the shared use path enhancing safety for bicyclists. Because it provides the most advantageous combination of design and functionality, Alternative 1 is the recommended option.

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