The background of the title page is a photograph of a grassy field with a line of trees in the distance. The entire image has a green color overlay.

# **Environmental Assessment for the Belmont Ferry Farm Trail**

*Chatham Manor*

**December, 2014**

## **Project Summary**

Stafford County is proposing to construct Phase IV of the Belmont Ferry Farm Trail system – an approximately 3,300 linear foot, 10-foot wide asphalt multi-use trail section along River Road in Fredericksburg. Approximately 2,000 linear feet of the trail would cross National Park Service (NPS) property at Chatham Manor, part of the Fredericksburg-Spotsylvania National Military Park. The trail would connect the sidewalk at the State Route 3 Bridge over the Rappahannock River with an established trail at John Lee Pratt Memorial Park. The National Park Service must approve the use of its property for the trail.

The trail would be part of the Belmont Ferry Farm Trail, of which several phases have already been constructed, and additional phases are planned for the future. This trail system would connect several properties on the National Register of Historic Places (NHRP), namely Belmont (artist Gari Melcher's home and studio), Chatham Manor, Ferry Farm (George Washington's boyhood home), and the Moncure Conway House (part of the National Underground Railroad Network to Freedom), as well as the Historic Port of Falmouth. The purpose of the fourth phase is to provide bicycle and pedestrian access from State Route 3 to both the Chatham Manor property and John Lee Pratt Memorial Park, and to provide another link in the Belmont Ferry Farm Trail system and other trails within Stafford County and the City of Fredericksburg, and to the larger Potomac Heritage National Scenic Trail. The proposed project is also needed to implement an NPS Fredericksburg-Spotsylvania National Military Park General Management Plan goal to cooperatively develop a trail along the bluffs and riverside from Chatham to Falmouth (NPS, July 1996).

This environmental assessment (EA) analyzes the impacts of the No Action and Proposed Action alternatives on, floodplains and wetlands, soils, vegetation, water resources, wildlife and fisheries, cultural resources, archeological resources, cultural landscapes, historical resources, park facilities and operations, visitor use and experience, human health and safety, and transportation. Under the No Action Alternative, the trail would not be constructed. Under the Proposed Action Alternative, the trail would be constructed across Chatham Manor property, adjacent to the southwest side of River Road in the floodplain portion of the property.

### **For Further Information Contact:**

Fredericksburg & Spotsylvania National Military Park  
120 Chatham Lane  
Fredericksburg, VA 22405

### **Note to Reviewers and Respondents:**

If you wish to comment on the Environmental Assessment, you may submit comments electronically through the NPS Planning, Environment, and Public Comment system (PEPC) at <http://parkplanning.nps.gov/frsp> or you may mail comments by February 10, 2015, to the name and address below. Before including your address, phone number, e-mail address or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Superintendent  
Fredericksburg & Spotsylvania National Military Park  
120 Chatham Lane  
Fredericksburg, VA 22405

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# 1. Purpose and Need

## 1.1 Introduction

Stafford County is proposing to construct Phase IV of the Belmont Ferry Farm Trail system – an approximately 3,300 linear foot, 10-foot wide asphalt multi-use trail section along River Road in Fredericksburg. The County is partnering with the National Park Service (NPS) to construct the approximately 2,000 linear feet of the trail that would cross NPS property at Chatham Manor, part of the Fredericksburg-Spotsylvania National Military Park. Phase IV of the trail (Figure 1, *Location Map*) would connect the sidewalk at the State Route 3 Bridge over the Rappahannock River with an established trail at John Lee Pratt Memorial Park (a County-owned park).

The portion of the trail on Chatham Manor property would be constructed largely on the southwest side of River Road in the floodplain of the Rappahannock River. Off the NPS property, the trail would connect at its southeastern end to the Route 3 bridge sidewalk on the southeast corner of that bridge. At its northern end, it would cross over River Road to enter John Lee Pratt Memorial Park to connect to an existing trail within this park. The trail through Chatham Manor property will be constructed as close to River Road as practicable, to minimize its visibility from the historic Chatham (Manor).

The overall Belmont-Ferry Farm Trail is one of three trails in Stafford designated by the NPS as part of the Potomac Heritage National Scenic Trail. When finished, the Belmont-Ferry Farm Trail will connect several properties on the National Register of Historic Places (NHRP), namely Belmont (artist Gari Melcher's home and studio), historic Chatham Manor, Ferry Farm (George Washington's boyhood home), the Historic Port of Falmouth and the Moncure Conway House (part of the National Underground Railroad Network to Freedom). The trails are expected to help boost tourism in the County, as well as provide alternative transportation routes for local residents. The trails will be included in NPS literature and maps, and promoted through the Service's website (Stafford County Comprehensive Plan – Parks & Recreation, 2010; Stafford County Parks & Places Webpage, Fall 2013).

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act of 1969 , as amended (NEPA), Council on Environmental Quality (CEQ) implementing regulations for NEPA [40 CFR 1500–1508], NPS Director's Order #12: *Conservation Planning, Environmental Impact Analysis and Decision Making* (DO-12, 2011) and its accompanying DO-12 Handbook (2001). It addresses the NPS Proposed Action – whether to partner with the County in constructing the trail where it crosses the Chatham Manor property - and the No Action Alternative, which is to not construct the trail across NPS property. The impacts of the off-property portions of Phase IV of the trail, namely those portions that would cross VDOT, Stafford County, and private property to connect to the Route 3 right-of-way and John Lee Pratt Memorial Park, are also discussed to the extent that these are indirect effects of the NPS action.

The Potomac National Scenic Trail is a 425-mile corridor between the Chesapeake Bay and the Allegheny Highlands, established by Congress in 1983 under the authority of the National Trails System Act (Public Law 90-543). The National Park Service administers, designates and coordinates the trail, and local jurisdictions manage their sections of the trail.

This NEPA analysis updates a July 1996 EA and August 1996 Finding of No Significant Impact (FONSI) prepared by the NPS for the same section of trail on their property. VDOT, which is providing federal transportation funds for the project, has also previously prepared NEPA documents addressing this and other sections of the Phase IV trail.

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## **1.2 Purpose of and Need for Action**

The overall Belmont Ferry Farm Trail is being planned and constructed in nine phases (Figure 2, Belmont Ferry Farm Trail System). The first three phases and the fifth phase together connect the historic port of Falmouth, St. Claire Brooks Park, and John Lee Pratt Memorial Park. These phases have already been constructed. This fourth phase would connect John Lee Pratt Memorial Park with the Route 3 Bridge over the Rappahannock River.

The purpose of this fourth phase of the trail is to provide bicycle and pedestrian access from State Route 3 to both the Chatham Manor property and John Lee Pratt Memorial Park. The project is needed not only to provide another link in the Belmont Ferry Farm Trail system, but also a link to other trails within Stafford County and the City of Fredericksburg. The trail would be consistent with the Fredericksburg Area Metropolitan Planning Organization (FAMPO) plan to create a regional network of multi-purpose trails to connect the parks, historic sites, and neighborhoods of the City of Fredericksburg and Stafford County with each other and the shoreline of the Rappahannock River (Stafford County Comprehensive Plan – Transportation Plan, 2010).

The proposed project is needed to implement a Fredericksburg-Spotsylvania National Military Park General Management Plan goal to cooperatively develop a trail along the bluffs and riverside from Chatham to Falmouth (NPS, July 1996), and provide coordinated trail access between the park and the surrounding region through a system of trails that link important cultural sites. It will improve access to the Manor for visitors who may opt to walk or ride bicycles to the Manor.

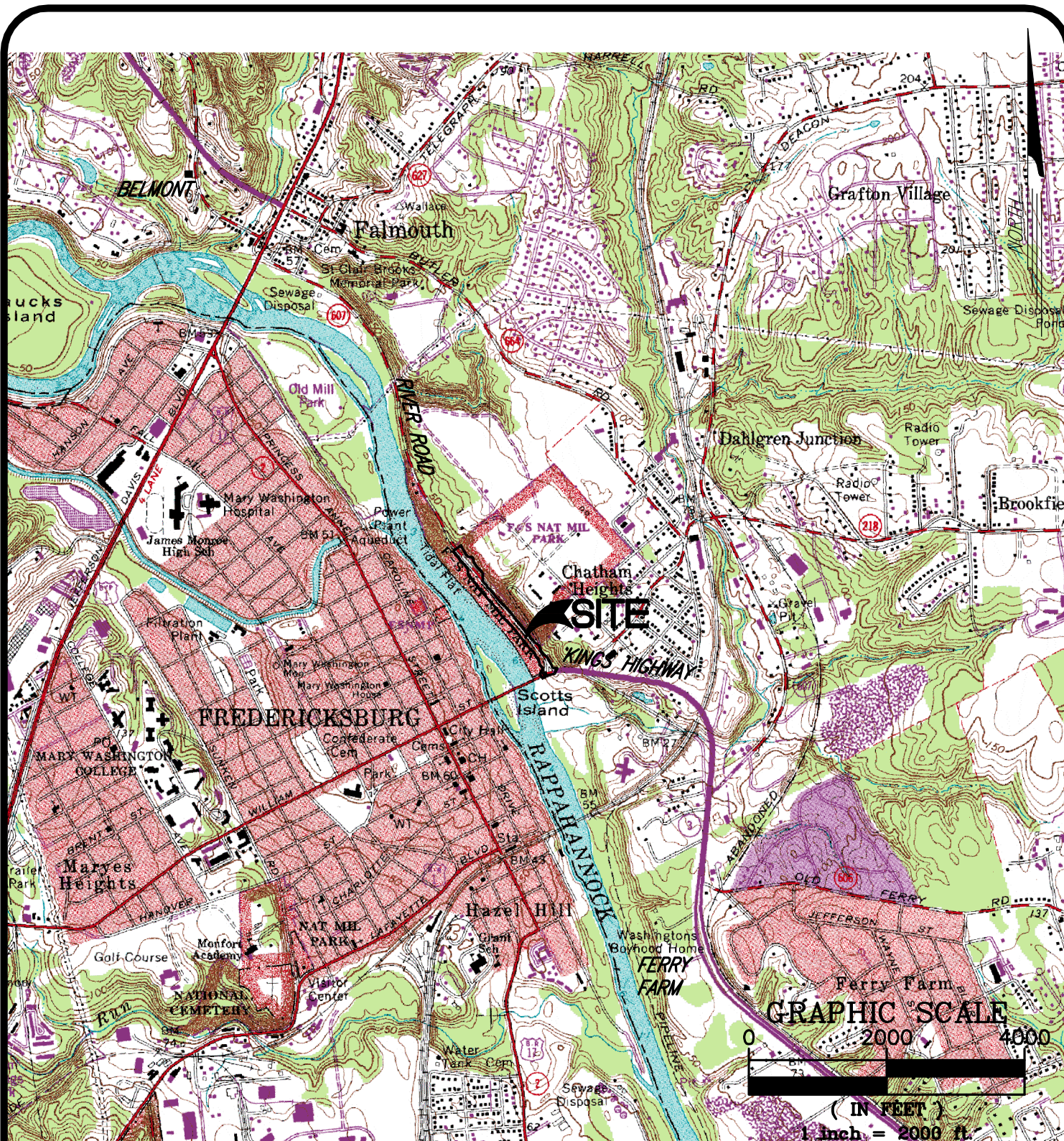
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## **1.3 Project Background**

The proposed project is the fourth link in a regional multi-use trail system that is a collaboration of the City of Fredericksburg, the old Fredericksburg-Stafford Park Authority (now represented by the separate Stafford and Fredericksburg Park Authorities), the Virginia Department of Transportation (VDOT), and the NPS at the Fredericksburg & Spotsylvania Military Park. In 1990, the Fredericksburg-Stafford Park Authority invited the NPS to join them in constructing a regional multi-use trail, a portion of which would pass through the grounds of the Chatham Manor on the Fredericksburg Battlefield unit of the park. The NPS Superintendent immediately approved the concept of a trail (USDI NPS, July 1996).

The Fredericksburg-Stafford Park Authority received a federal Intermodal Surface Transportation Efficiency Act (ISTEA) grant in 1994, to begin planning and construction of the trail. The NPS prepared their 1996 EA for the portion of the trail that would cross the Chatham Manor property, evaluating five alternatives based on issues such as conservation of both cultural and natural resources, interpretation, access, security, maintenance, and community relations (NPS, July 1996a).





**FIGURE 1: LOCATION MAP**  
**BELMONT - FERRY FARM TRAIL - PHASE 4**

SCALE: 1" = 2000'

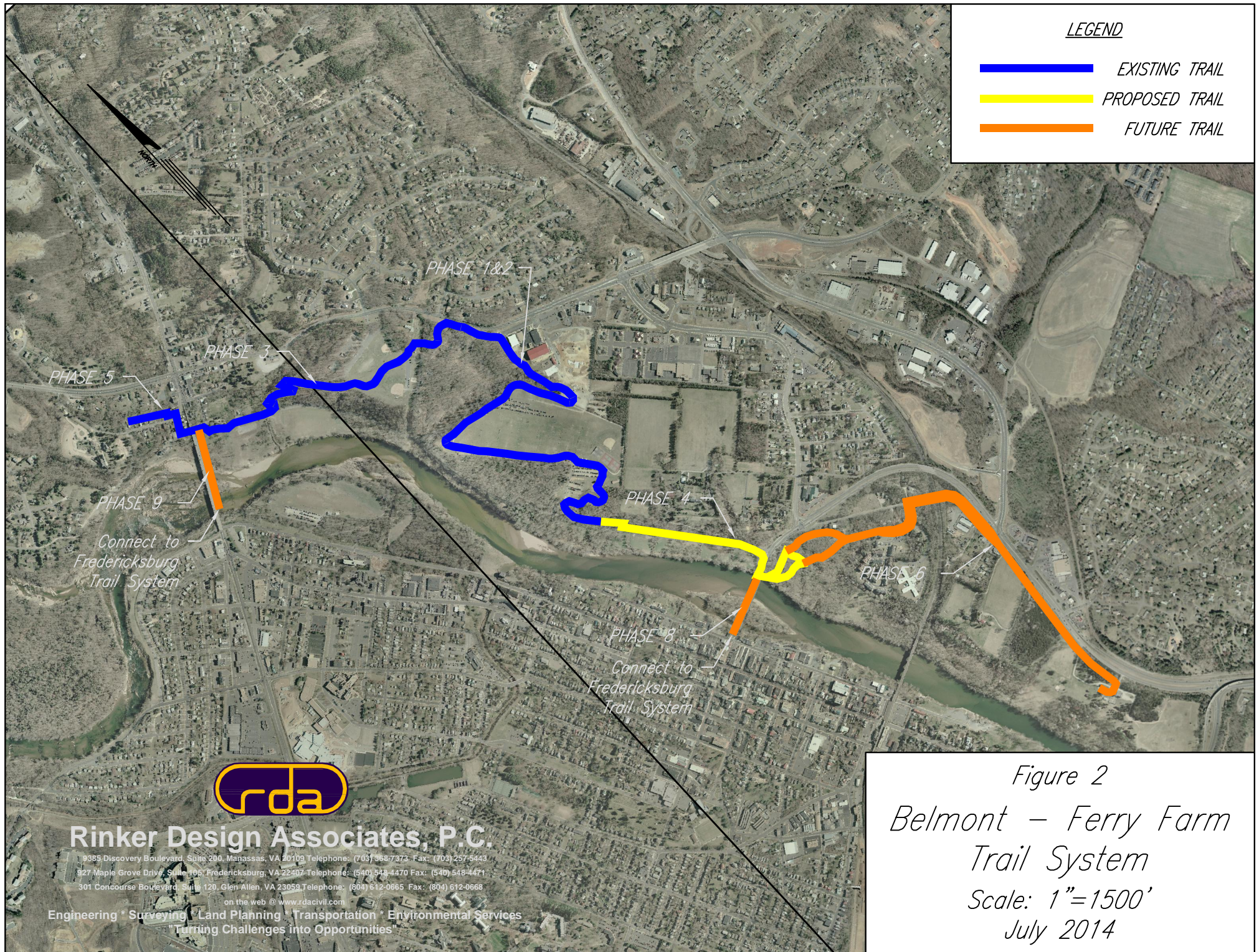
SOURCE: USGS FREDERICKSBURG QUAD

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*"Turning Challenges Into Opportunities"*









Phases I, II, III, and V of the trail (see Figure 2) have been constructed, and Phase VII (a parking lot) is in the design or planning process. The Stafford Park Authority is currently planning to construct the fourth phase (Phase IV). NPS is providing this EA to update the information provided in the 1996 EA. Chatham Manor, built in 1768, has considerable Civil War significance and is listed on the National Register of Historic Places (see Subchapter 3.2).

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## **1.4 Relationship to Laws, Executive Orders, Policies, and Other Plans**

### ***NPS Organic Act Of 1916***

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units of the national park system “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 USC 1a-1).

### ***NPS Management Policies 2006***

The NPS Management Policies 2006 (NPS 2006a) is the basic NPS-wide policy document, adherence to which is mandatory unless specifically waived or modified by the NPS director or certain departmental officials, including the U.S. Secretary of Interior.

### ***Code of Federal Regulations, National Park Service, Bicycles [36 CFR 4.30].***

Title 36, Part 4, Section 4.30 of the CFR establishes rules for the use of bicycles on NPS lands. For existing trails that require construction or significant modification to accommodate bicycles and for new trails outside of a developed area, the park superintendent must:

- “complete a park planning document that addresses bicycle use on the specific trail that includes an evaluation of:
  - The suitability of the trail surface and soil conditions for accommodating bicycle use.
  - Life cycle maintenance costs, safety considerations, methods to prevent or minimize user conflict, methods to protect natural and cultural resources and mitigate impacts, and integration with commercial services and alternative transportation systems (if applicable).”
- “complete either an environmental assessment (EA) or an environmental impact statement (EIS) evaluating the effects of bicycle use in the park and on the specific trail. The superintendent must provide the public with notice of the availability of the EA and at least 30 days review and comment on an EA completed under this section.”

The park superintendent must additionally obtain the Regional Director’s written approval of the determination and promulgate a special regulation authorizing the bicycle use.

## ***NPS A Call to Action: Preparing for a Second Century of Stewardship and Engagement***

Action 4: *In My Back Yard* – Improve urban residents' awareness of and access to outdoor and cultural experiences close to home by promoting national parks in urban areas and ensuring safe and enjoyable physical connection(s) from parks to a variety of sustainable transportation options aligned with urban populations' needs.

Action 5: *Parks for People* - Enhance the connection of densely populated, diverse communities to parks, greenways, trails, and waterways to improve close-to-home recreation and natural resources conservation. We will achieve this by proactive Rivers, Trails, and Conservation Assistance Programs and collaborative park-based programs that develop a deeper understanding of communities' needs and connect citizens to the outdoors in the 50 largest urban areas and those with the least access to parks.

Action 6: *Take a Hike, Call Me in the Morning* - Expand the health community's use of parks as a healing tool and increase citizen recognition of the value of parks to improve health and well-being.

Action 23: *Go Green!* - Further reduce the NPS carbon footprint over 2009 levels, and widely showcase the value of renewable energy. To accomplish this, we will foster sustainability in our parks and with our partners by reducing greenhouse gas emissions by 20 percent, including on-site fossil fuel usage and emissions due to electricity consumption.

## ***Stafford County Comprehensive Plan, 2010***

The *Stafford County Comprehensive Plan* envisions and supports the development of the Belmont Ferry Farm Trail. All three selected trails in Stafford County are expected to help boost Stafford County tourism.

The *Stafford County Comprehensive Plan* Transportation Chapter generally encourages the development of pedestrian and bicycle trails. It recognizes that most of the trails in Stafford County are privately owned and constructed as part of individual neighborhoods, and that providing a series of connecting trails and sidewalks is a priority for the County. The Transportation Chapter specifically recognizes the proposed Belmont-Ferry Farm and Dominion trails. The Plan encourages that, where roads cannot be constructed to connect adjacent existing neighborhoods, pedestrian and bicycle trails should be considered, to promote connectivity (*Stafford County Comprehensive Plan –Transportation, 2010*).

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## **1.5 Scoping Process**

Scoping for Phase IV of the Belmont Ferry Farm Trail EA was informal, by email, and included the following agencies and organizations:

- Stafford County Planning & Zoning Department
- Stafford County Schools
- Stafford County Department of Public Works, Transportation
- Stafford County Department of Public Works, Environmental
- Stafford County Fire & Rescue Department
- Natural Resources Conservation Service



- Virginia Department of Health
- Virginia Outdoors Foundation
- Virginia Department of Conservation and Recreation, Natural Heritage Program
- Virginia Department of Environmental Quality, Air Quality
- Virginia Department of Environmental Quality, Water Protection
- Virginia Department of Game and Inland Fisheries
- Virginia Department of Land Protection and Revitalization
- Virginia Department of Forestry
- Virginia Department of Mines, Minerals and Energy
- Virginia Department of Historic Resources
- U.S. Army Corps of Engineers
- Friends of the Fredericksburg Area Battlefields
- Central Virginia Battlefields Trust
- The Civil War Trust

**Scoping identified no particular** issues that would affect the selection of alternatives or warrant a detailed analysis or study. The Virginia Department of Historic Resources (VDHR) requested more information on the Area of Potential Effect (APE), particularly for visual impacts on historic properties and districts in the area. This is addressed in Section 3.2

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## 1.6 Impact Topics

### *Impact Topics Analyzed in this EA*

- Natural Resources, including:
  - Topography and Soils
  - Water Quality
  - Wetlands and Floodplains
  - Vegetation
- Cultural Resources, including:
  - Archaeology
  - Historic Structures and Districts
  - Cultural Landscapes
- Park Operations and Visitor Experience, including:
  - Park Facilities and Operations
  - Visitor Use and Experience
- Social and Economic Environment:
  - Human Health and Safety
  - Land Use
  - Transportation
  - Recreational Resources

### ***Impact Topics Dismissed from Further Analysis***

- *Environmental Justice*: Presidential Executive Order 12898 requires Federal agencies to identify and address disproportionate impacts of their programs, policies, and activities on minority and low-income populations. None of the alternatives would result in disproportionate health or environmental effects on minorities or low-income populations as defined in the EPA Environmental Justice Guidance, because although such populations exist, the effects of the alternatives would be equal across all populations. Therefore, this topic is not further addressed in this EA.
  - *Surface Waters*: There would be temporary impacts to surface waters because streamflow would be temporarily diverted during construction while culverts are placed, extended, or replaced to allow the trail to cross these features.
  - *Fish and Wildlife*: The proposed project would have only a negligible adverse effect on fish and wildlife. The trail would eliminate about 0.70 acres of general wildlife habitat, by placing an additional 20 to 25 feet of each of stream and drainage into culverts or rip-rapped outlets, adversely affecting the habitat in the streams. However, the project area is quite far from the Rappahannock River and associated fisheries, and unlikely to have more than a negligible effect on habitat provided careful erosion and sedimentation controls are used. Given the nature of the habitat, its location in an urban area, and the likely mix of wildlife species using that habitat, this impact would be negligible.
  - *Rare, Threatened and Endangered Species*: Coordination with the Virginia Department of Game and Inland Fisheries (VDGIF), the Virginia Department of Conservation and Recreation (VDCR) Division of Natural Heritage (DNH), and the US Fish and Wildlife Service indicates that, provided the construction activity strictly adheres to local erosion and sedimentation control measures, there would be no short or long-term adverse effects (direct, indirect or cumulative) on state or federal rare, threatened, or endangered species.
  - *Indian Trust Resources*: Secretarial Order 3175 requires that agencies assess environmental impacts of proposed actions on Indian trust resources. The federal Indian trust responsibility is a legally enforceable obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources within or adjacent to the project area. Therefore, this topic is not analyzed further in this EA.
  - *Museum Collections*: The proposed project would have no effect on museum collections.
  - *Ethnography*: The proposed project would have no effect the cultural practices of populations living in the area.
-

## 2 Alternatives

### 2.1 Introduction

The EA evaluates the following alternatives:

- Not constructing the trail across Chatham Manor property. This alternative is essentially the “No Action” alternative under 40 CFR 1502.14(d). Phase IV of the Belmont Ferry Farm trail, including the portions of the trail off the NPS property, would not be constructed.
- The Proposed Action (constructing the trail across Chatham Manor property). This alternative would result in the trail being constructed adjacent to the southwest side of River Road. It would result in the completion of a continuous alternative route between the Route 1 and Route 3 bridges in Falmouth that is dedicated to pedestrian and bicycle traffic. Two sub-alternatives for the overall Phase IV trail have been evaluated. One alternative would tie the new Phase IV trail section into the northwest side of the Route 3 bridge (on NPS property), and one (the Preferred Alternative) would tie the new trail section into the southeast side of the Route 3 bridge (using private property).

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### 2.2 Descriptions of Alternatives

#### 2.2.1 No Action Alternative

Under the No Action Alternative, the trail would not be constructed. Trail users wanting to access Chatham Manor or other historic resources such as Ferry Farm or the Fredericksburg Historic District from the end of the current trail in John Lee Pratt Memorial Park, would continue to head east White Oak Road (Route 218) to Chatham Heights Road, Kings Highway (Route 3). Commuters in the vicinity will continue to use their vehicles to access downtown Fredericksburg.

#### 2.2.2 Proposed Action Alternative

The Proposed Action Alternative is to construct the proposed multi-use trail as shown in Figure 3 (*Site Plan*). The trail would descend the slope from John Lee Pratt Memorial Park just west of its boundary with the Chatham Manor property, turn southeast and travel approximately 220 linear feet at the base of the slope along the northwest side of the road. From there the trail will pass another 220 feet along the base of the slope, crossing a small intermittent stream, then cross River Road. It will pass southeast along and very close to the road shoulder for a distance of about 2,000 linear feet on NPS property, alongside and as close as practicable to River Road and the base of the bluff, where it will exit the Chatham Manor property approximately 875 feet from its southeastern terminus at the Route 3 bridge..

The proposed trail route is driven by several considerations:

- The need to accommodate the steep slopes and at the same time meet safety standards for this type of facility. For safety purposes, the trail needs to have a gentle slope.
- The desire to use an existing entrance to the floodplain rather than create a new entrance. The trail would cross River Road at an existing gravel entrance used by NPS maintenance equipment.
- The desire to use existing stream and ditch culverts as much as possible to avoid additional impacts to the floodplain wetland.



After exiting the NPS property, the trail would continue eastward on private property, passing beneath the Chatham Bridge (State Route 3) and tying in to the sidewalk on the southeast side of the bridge.

The trail on the NPS and private properties would be constructed in the Rappahannock River floodplain, and through the wetland. It would be constructed by excavating the top foot or so of soil, and backfilling with suitable bedding and drainage material such as gravel or crushed rock and surfacing with asphalt pavement. The proposed trail would be 10 feet wide and will have 2-foot graded shoulders on each side. The drainage stone will extend vertically within the first 6 inches of the graded shoulder adjacent to the trail. The asphalt pavement surface will be free of a center line stripe and will be tinted to better blend in with the visual aspect of the area. Culverts would be cleaned or replaced, and in some cases extended, as needed.

### **2.2.3 Alternatives Dismissed from Further Consideration**

Several alignments have been evaluated over the history of the project, but have been dismissed from further consideration because of various issues, primarily because of their impacts on safety or the features that make Chatham Manor of historic significance:

- Routing the trail alignment away from River Road and further southwest into the floodplain to reduce impacts on the emergent wetland that characterizes the inner floodplain near River Road. This alternative was dismissed because of potential adverse impacts to cultural resources associated with Chatham Manor that would be difficult and costly to mitigate. Due to the potential significant impacts to resources, which would be greater than impacts associated with other alternatives, this alternative was dismissed from further discussion.
- Constructing the trail across the historic slope southwest of Chatham Manor. This alternative would compromise the historic road trace of the Chatham site, and, depending on how high up the slope the trail were to be constructed, would require filling several historically significant ravines used by the Union soldiers for cover from Confederate artillery fire. There is also a spring-fed seepage wetland on this slope. This alternative may also require cutting into the steep slopes and constructing a retaining wall. Impacts to resources would be significantly greater than potential impacts from other alternatives selected for analysis, therefore this alternative was dismissed from further analysis.
- Constructing the trail along the existing farm road that connects John Lee Pratt Memorial Park to Chatham Drive and Chatham Heights Road. The trail would pass the Chatham greenhouses and follow Chatham Drive out to its entrance on Chatham Heights Road, then alongside Chatham Heights Road to the King's Highway (State Route 3) and over the Route 3 Bridge. This alternative would require paving the historic farm road, and pedestrian and bicycle traffic would have to be directed along a one-way entry road. The impacts to cultural resources associated with this alternative would be much greater than for actions associated with the alternatives identified for further analysis, due to the paving of a historic farm road. Additionally, this alternative would cause a significant safety risk to visitors utilizing the one-way entry road, which is not suitable for pedestrian traffic.
- Constructing the trail from John Lee Pratt Memorial Park along the eastern edge of the Chatham hay fields and following the field edge to the Chatham Manor parking area. This route would take the trail through relatively undisturbed soils with suspected archaeological resources, and require additional archaeological survey. Additional surveys would add a substantial amount to the cost of the overall project, and the potential for additional archaeological research, and therefore higher costs and a greater amount of disturbance to park resources, would be incurred. Therefore this alternative was dismissed from further analysis.



Constructing the trail on a boardwalk rather than fill base to reduce impacts on wetlands was also considered, but this alternative would prevent access for NPS maintenance, not be easy to maintain, interfere with flood flows, and create a debris trap during flood events.

Use of retaining walls to pull back the width of the shoulders to reduce impacts on the stream, ditches, and wetlands would require a handrail at those crossings, and similar to a boardwalk, the handrail would contribute to a visual impact as well as provide a potential trap for debris during flooding. The proposed design is on a fill base but essentially at-grade.

#### **2.2.4 Construction Staging and Stormwater Management Facilities**

No construction staging areas or stormwater management facilities will be needed for this project.

#### **2.2.5 Environmentally Preferable Alternative**

In accordance with the DO-12 Handbook, the NPS identifies the environmentally preferable alternative in its NEPA documents for public review and comment [Sect. 4.5 E (9)]. The environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the responsible official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative (43 CFR 46.30).

After completing the environmental analysis, the NPS identified the No Action Alternative as the environmentally preferable alternative in this EA because it would result in the fewest adverse environmental effects.

#### **2.2.6 Mitigation Measures of the Proposed Action Alternative**

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, the following protective measures would be implemented as part of the selected action alternative. The NPS would implement an appropriate level of monitoring throughout the construction process to help ensure that protective measures are being properly implemented and are achieving their intended results.

- The proposed trail would be constructed as close to River Road and the base of the bluff as possible to minimize its visibility from the top of the bluff and the front of the Manor, as well as to minimize its impact on wetlands.
- The asphalt pavement surface will be free of a center line stripe and will be tinted to better blend in with the visual aspect of the area.
- The construction activity will closely adhere to erosion and sedimentation control standards.



## 2.2.7 Summary and Comparison of the Alternatives

**Table 1 – Summary of Environmental Consequences**

<b>Impacted Resource</b>	<b>No Action</b>	<b>Proposed Action</b>
<b>Topography and Soils</b>	No impacts	Minor change in topography due to the addition of a low berm along a portion of the project route; soils would be exposed to erosion temporarily due to construction activity, causing a short-term minor impact to soils; 0.64 square feet of permeable soil would be replaced by impervious soils, causing a minor long term impact to soils.
<b>Water Quality</b>	No impacts	Short-term, minor adverse impacts on water quality during construction due to temporary soil erosion, and sediments reaching nearby stream.
<b>Wetlands &amp; Floodplains</b>	No impacts	Minor, short and long-term, direct adverse effect on both wetlands and the floodplains; after mitigation, no net loss of wetlands and restoration of temporary disturbance.  Also, beneficial long-term impact on the flood storage capacity of the floodplain.
<b>Vegetation</b>	No impacts	Minor short and long-term direct adverse effects on vegetation due to disturbance of wetlands; 1.55 acres would be disturbed during construction and a few medium and small trees would be removed.
<b>Cultural Resources</b>	No Impacts	The proposed action would have no effect on archaeological resources. It would add a non-historic feature to the historic landscape of Chatham Manor, but in a manner that will minimize its view from the top of the bluff and the Chatham Manor grounds
<b>Park Facilities &amp; Operations</b>	No Impacts	Short and long-term, minor direct adverse effect.
<b>Visitor Use &amp; Experience</b>	No Impacts	Short-term, direct adverse effect, due to noise and construction disturbance along River Road. Long-term minor beneficial impacts due to increased accessibility.
<b>Human Health and Safety</b>	No Impacts	Negligible short-term and minor, long-term adverse impact, by increased human presence on NPS property although trail design will mitigate potential accidents.
<b>Transportation</b>	No Impacts	Short-term, minor direct adverse impacts Short Term adverse impact on traffic due to entering and exiting construction vehicles. and long-term minor beneficial indirect impact due to completion of the Belmont Ferry Farm Trail System and provides another means of travel for commuters.
<b>Recreation Resources</b>	No Impacts	Short Term minor impacts due to noise from construction and a Long-term moderate direct beneficial impact from completion of the recreational trail system.

### 3 Affected Environment & Environmental Consequences

This chapter describes both the affected environment of the project area and the environmental consequences of each alternative.

In accordance with the CEQ regulations, the analysis below includes the direct, indirect and cumulative impacts (40 CFR 1502.16). The intensity of the impacts is assessed in the context of the park's purpose and significance, and any resource-specific context that may be applicable (40 CFR 1508.27). Where appropriate, mitigating measures for adverse impacts are described and their effect on the severity of the impact noted. The methods used to assess impacts vary depending on the resource being considered, but are generally based on a review of pertinent literature and park studies, information provided by on-site experts and other agencies, professional judgment, and park staff knowledge and insight.

Impacts are categorized by type, as follows:

- **Direct:** Impacts that would occur as a result of the proposed action at the same time and place of implementation (40 CFR 1508.8).
- **Indirect:** Impacts that would occur as a result of the proposed action but later in time or farther in distance from the action (40 CFR 1508.8).
- **Adverse:** An impact that causes an unfavorable result to the resource when compared to the existing conditions.
- **Beneficial:** An impact that would result in a positive change to the resource when compared to the existing conditions.
- **Intensity** – refers to the severity or magnitude of the impact. Intensity is generally described as negligible, minor, moderate or major.
- **Context** – refers to the affected environment within which an impact would occur, such as local, park-wide, regional, global, affected interests, society as a whole or any combination of these. Context also includes the park's purpose and significance and may also include laws, regulations and policies established to protect specific resources. Context also includes consideration of the duration of an impact; i.e., long-term and short-term impacts.

This EA also considers cumulative impacts, namely “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts have been addressed in this EA by resource. At this time, the only reasonably foreseeable future actions that would contribute to cumulative impacts are the future phases of the trail. Phases VI (connecting Chatham to Ferry Farm) and VII (parking lots for trail users in downtown Falmouth) are in the planning process, but the schedule for Phases VIII and IX, which would include constructing trails on the US Route 1 and state Route 3 bridges, are uncertain.

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## 3.1 Natural Resources

### 3.1.1 Topography, and Soils

The topography in the project area is characterized by a well-defined flat floodplain abutting the steep slopes (15-30 percent) on the northeast side of River Road, along the bluff where John Lee Pratt Memorial Park, Chatham Manor, and the neighboring private properties are located. Soils characterizing the site include Congaree loam on the floodplain and lower slopes, and Aura-Galestown-Sassafras complex on the slopes above Congaree loam (NRCS Websoil Survey, February 2013). Congaree soils are deep, well to moderately-well drained, moderately-permeable loamy soils that form in fluvial (flood-borne) sediments, forming on floodplains or at the base of slopes. These soils are in areas that normally flood for brief periods in winter or spring (NRCS Official Series Description Website, February 2013a). Aura, Galestown, and Sassafras are moderately to very deep, somewhat excessively to moderately well-drained, and slowly to moderately permeable soils. All three of these series are sandy loams or loamy sands (NRCS Official Series Description Website, February 2013b, c and d) that have formed in a variety of settings, including old stream terraces, coastal plain uplands, and old alluvial or fluvial deposits.

**Impacts of No Action:** The No Action Alternative would result in no impact to topography or soils. No construction would be undertaken, and no new activities would be introduced to the John Lee Pratt Memorial Park or Chatham Manor.

**Impacts of the Proposed Action / Mitigation:** The project would cause a minor change in topography, which would be neither beneficial nor adverse. It would create a berm that is slightly-raised along some portions of the project route, and change the contours of the hillside between John Lee Pratt Memorial Park and the Chatham Manor property.

The construction activity would have a minor direct adverse effect on soils, exposing them to erosion. This effect would be particularly noticeable on the part of the trail that would ascend the steep slope to John Lee Pratt Memorial Park. The overall anticipated area of disturbance is 2.25 acres, of which 10 percent is on steep slopes. The construction activity would use the best management practices required by the Stafford County Erosion and Sediment Control Ordinance and the Virginia Erosion and Sediment Control regulations/handbook, which would minimize these effects.

The project should have a long-term, minor adverse direct impact on soils by replacing 0.64 acres of permeable soils with impermeable asphalt pavement.

**Cumulative Impacts:** The only reasonably foreseeable future actions presently underway in the vicinity that would contribute to cumulative impacts on soils on the property would be Phases VI and VII of the overall Belmont Ferry Farm Trail. Phase IV is one section of the approximately 4-mile trail, of which approximately 2.1 miles have been constructed to date. The previous sections have replaced 3 to 4 acres of soil with impermeable surfaces. Phase VI will replace another 1.3 miles and up to 2 to 3 acres of soil with impermeable surfaces, and the Phase VII parking lots will impact a few more acres. These impacts are negligible considering the length of the overall trail.

### 3.1.2 Water Quality

Under Section 303(d) of the Clean Water Act, states are required to develop lists of impaired waters – waters that are too polluted or otherwise degraded to meet the water quality standards set by states. The



law requires that these jurisdictions establish priority rankings for waters on the lists, and develop Total Maximum Daily Loads (TMDLs) for these waters. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards (US Environmental Protection Agency Water Website, February 2014). These rankings are further organized by whether or not the water is non-supporting but a TMDL has been developed (Category 4) versus the water is non-supporting but a TMDL has not been developed (Category 5).

The stream that crosses the northwestern end of the trail is too small to be sampled by the VDEQ as part of its water quality program. The nearest surface water sampled on a regular basis is the Rappahannock River, which forms the southwestern boundary of the site. Overall site drainage is to the Rappahannock River.

This section of the Rappahannock River estuary is listed in the Virginia 2012 Water Quality Assessment Report as fully supporting aquatic life and wildlife, and not supporting recreation or fish consumption. There is not sufficient information to determine whether it supports shellfish (Virginia Department of Environmental Quality VEGIS Website, Water Quality Assessment GIS Applications, February 2014).

The estuary does not support recreation due to excessive bacteria (as measured by the presence of *Escherichia coli*). A TMDL for bacteria has been developed by the VDEQ as of 2010 and is being implemented.

The fish consumption standard is not being met because of the amount of polychlorinated biphenyl (PCB) found in fish sampled from this section of the river. The Virginia DEQ is in the process of developing a TMDL to address PCBs in fish tissue for the Rappahannock River, and a TMDL and implementation plan is due by 2016 (Virginia Department of Environmental Quality *Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report* Website, February, 2014).

**Impacts of No Action:** The No Action Alternative would result in no impact to water quality.

**Impacts of the Proposed Action / Mitigation:** The construction activity would cause short-term, minor adverse impacts on water quality. It would expose soils to erosion and likely result in some sediment reaching the stream and ditches downstream from the construction site. Suspended sediment would increase turbidity, leading to rises in water temperature and lowered dissolved oxygen levels. Some of this sediment could reach the Rappahannock River. These effects should dissipate quickly after areas disturbed by construction are stabilized. Careful use of standard erosion and sedimentation control measures as required by the Stafford County Erosion and Sediment Control Ordinance and the Virginia Erosion and Sediment Control regulations/handbook, would mitigate these effects. The project would not contribute to, or worsen, either the PCB or excessive bacteria problems.

The project would have no long-term impacts on the water quality of the stream, drainage ditches, or Rappahannock River.

**Cumulative Impacts:** The only reasonably foreseeable future actions underway in the vicinity of Chatham Manor that would contribute to cumulative impacts on water quality are Phases VI and VII of the trail. These phases will also likely have negligible to minor impacts on water quality, provided the construction activity adheres to the local and state erosion and sedimentation control and stormwater management requirements.

### 3.1.3 Wetlands & Floodplains

Figure 4 (Streams, Wetlands, & Floodplain) shows the stream, wetlands and floodplain within the project area. It also shows the three ditches that collect runoff and groundwater seepage from the base of the steep slope along the north side of River Road.

Executive Order 11990, *Protection of Wetlands*, states an overall wetlands policy for all agencies managing Federal lands, sponsoring Federal projects, or providing Federal funds to state or local projects of "no net loss." *Directors Order #77-1: Wetland Protection* (NPS 2002), and *Procedural Manual #DO 77-1: Wetland Protection* (DO 77-1; NPS 2012), establish NPS policies, requirements, and standards for implementing Executive Order 11990. DO 77-1 identifies the goal of "no net loss" of wetlands in national parks and commits the NPS to a longer-term goal of achieving a "net gain" of wetlands in the national park system by means of restoring degraded wetlands. Wetlands are also subject to regulation by the Corps under Section 404 of the Clean Water Act and by the VDEQ under the Virginia Water Protection Permit Program. Wetlands present within the project area were delineated in December 2012 and May 2013, and verified by the US Army Corps of Engineers by letter dated July 19, 2013. The bike trail will impact poor quality, emergent, artificial, incidental wetlands. The wetlands were created when drainage ditches through a floodplain farm field silted in, due to the NPS not maintaining these drainage ditches. This project is an excepted action under Section 4.2.1.g. Maintenance, Repair or Renovation, of the Procedural Manual. This exception assumes that all construction activity (e.g., driving equipment) and placement of the new surface material will be within the footprint of the maintenance road and all appropriate conditions in Appendix 2: Best Management Practices, of the manual will be implemented.

Executive Order 11988 on *Floodplain Management* requires all Federal agencies to take action to reduce the risk of flood loss, to restore and preserve the natural and beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare. *Directors Order #77-2: Floodplain Management* (NPS 2003) and *Procedural Manual #DO 77-2: Floodplain Management* (DO 77-2; NPS 2012), establish NPS policies, requirements, and standards for implementing Executive Order 11988. In order to evaluate potential impacts to floodplains, NPS staff professionals reviewed the requirements of the DO 77-2 and examined the Federal Emergency Management Agency Flood Insurance Rate Maps for the project area (Federal Emergency Management Agency, February 2005). DO 77-2 establishes three classes of actions which require a formal Statement of Findings. Class I Actions are subject to the floodplain policies and procedures if they lie within the 100-year floodplain (the Base Floodplain) and will "by their nature entice or require individuals to occupy the site, are prone to flood damage, or result in impacts to natural floodplain values." While much of the project area lies within the regulatory (100-year) floodplain, Zone AE, of the Rappahannock River, the project improvements would not by their nature entice or require individuals to occupy the site, be prone to flood damage, or result in impacts to natural floodplain values. The proposed action does not meet the Class I Action category requirements, nor does it fall within any of the other Class Action categories and therefore, does not require a Statement of Findings (SOF) under DO 77-2 for floodplains.

**Impacts of No Action:** The No Action Alternative would result in no impact to wetlands or the floodplain.

**Impacts of the Proposed Action / Mitigation:** The proposed project would have a minor, long-term, direct adverse impact on wetlands, permanently replacing 0.26 acres of emergent wetland with the paved trail and gravel shoulders (where necessary to meet the grade). Up to 0.47 acres of additional wetland (emergent) may be temporarily disturbed during construction. The County will obtain a Section 404 Clean Water Act permit from the US Army Corps of Engineers, and a Virginia Water Protection Program

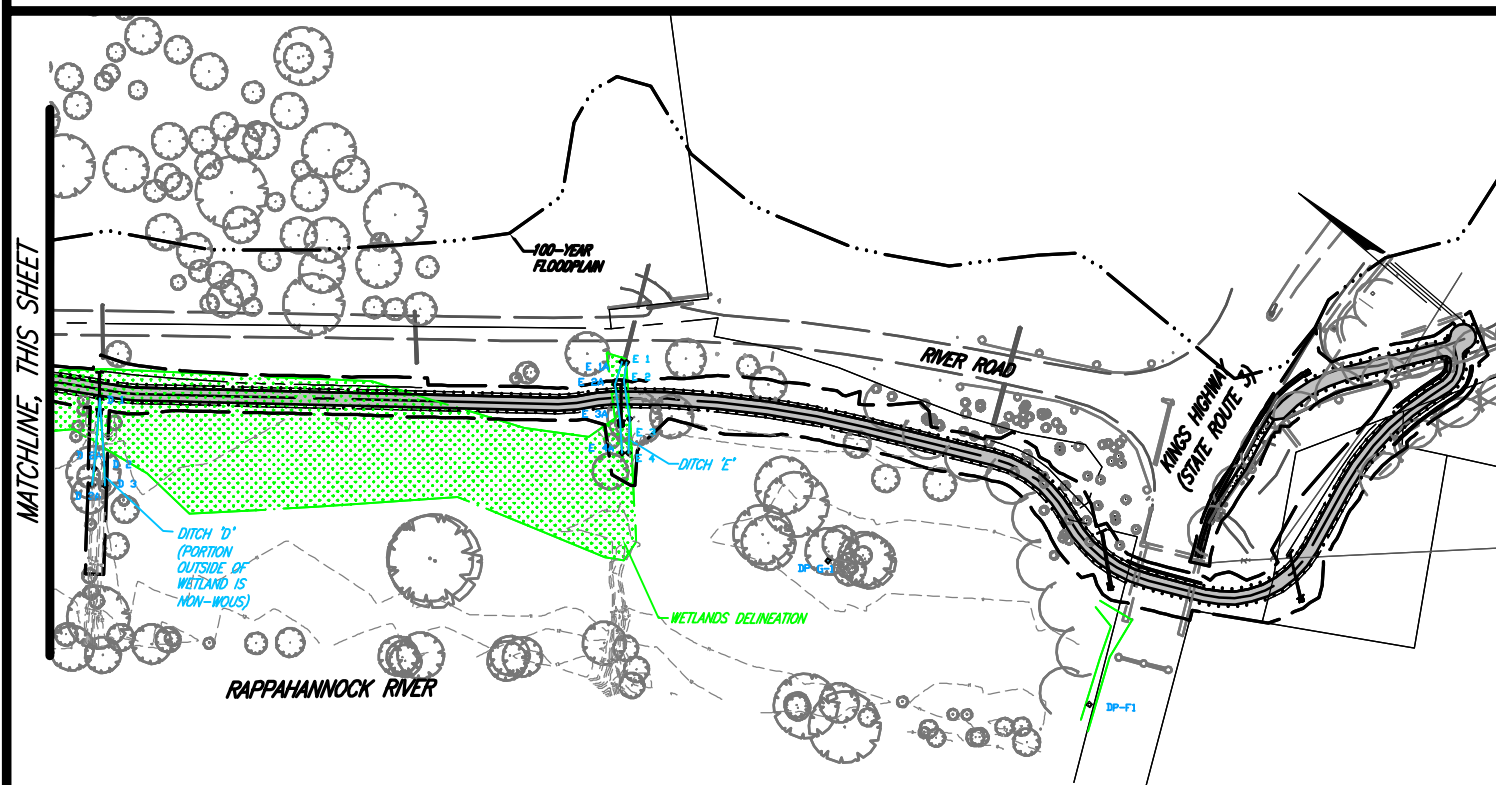
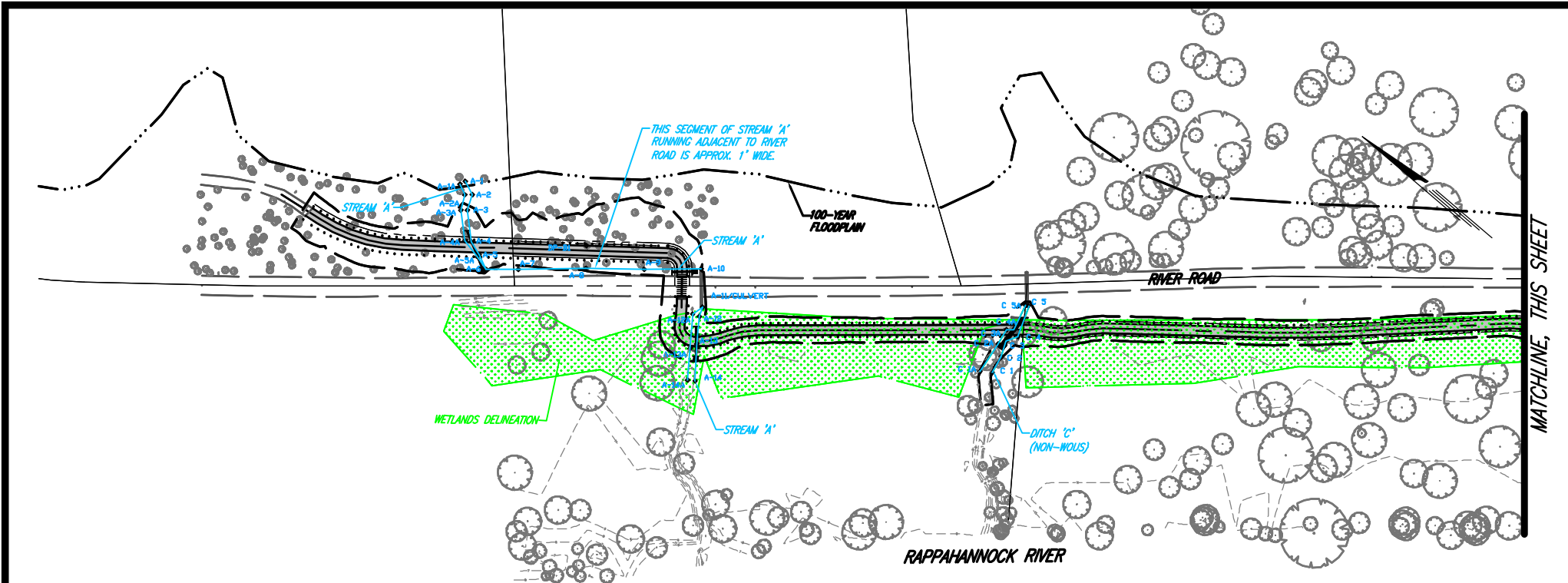
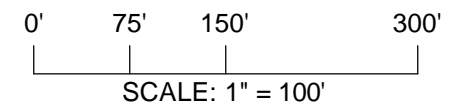


Figure 4  
Belmont-Ferry Farm Trail  
Wetland/Stream/Floodplain Map  
July 2014



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permit from the VDEQ. These permits will require that the permanent loss of wetlands be mitigated, most likely through the purchase of credits from an appropriate wetland mitigation bank or the Virginia Aquatic Resources Trust Fund. The permit conditions will also require the restoration of those wetlands temporarily disturbed. The wetland permit requirements will ensure there is no net loss of wetland functions and values.

The proposed project would have a minor effect on the floodplain. The proposed trail would be built very close to existing grade, except where it climbs the slope, where a net removal of soil would be required. No railings or other structures that could trap flood debris would be used. The trail would attract visitors, but transient visitors – it would not encourage visitors to occupy the floodplain. The project would also actually have a long-term, minor beneficial impact on the natural values of the floodplain – the flood storage capacity of the floodplain would be increased by the net removal of 200 cubic yards of material removed from the floodplain. There would be no rise in the 100-year water surface elevation.

**Cumulative Impacts:** The only reasonably foreseeable future actions in the vicinity that would contribute to cumulative impacts on wetlands or the Rappahannock River floodplain would be Phases VI and VII of the trail. These phases may have minor impacts on wetlands and floodplains, depending on where exactly they are constructed. However, given the small nature of the trail and its footprint, these impacts would be negligible to minor.

### **3.1.4 Vegetation**

About two-thirds of the project site is within the floodplain of the Rappahannock River, which is largely characterized by mown fields (grasses, sedges, goldenrods, etc.), with clusters of trees and shrubs (slippery elm, box elder, red maple, and sycamore), particularly along the banks of the ditches and stream. Off the Manor property, where the trail would climb the slope to John Lee Pratt Park, and up the slope southeast of the Route 3 bridge, the vegetation is typical of disturbed woodland, characterized by red maple, red cedar, sweetgum, black locust, hackberry, red oak, poison ivy, trailing honeysuckle, and greenbriar. The emergent wetlands that occur within the floodplain are characterized by wet-tolerant herbaceous species such as rice-cutgrass, arrow-leaved smartweed, reed canary grass, and barnyard grass.

**Impacts of No Action:** The No Action Alternative would result in no impact to vegetation.

**Impacts of the Proposed Action/Mitigation:** The proposed project would have minor short and long-term direct adverse effects on the vegetation, permanently replacing about 0.70 acres of wetland and other vegetation with the paved trail and shoulders. Up to 1.55 additional acres would be temporarily disturbed during construction. Several small and medium-sized trees would be removed. The temporarily disturbed areas would be reseeded, and replacement trees planted, where appropriate. Locating the proposed trail as close as possible to the existing River Road right-of-way will help restrict vegetation impacts to an area that is already disturbed by road maintenance activities. In fact, the NPS mows the entire floodplain regularly, to maintain its character as nearly as possible to its Civil War era condition.

**Cumulative Impacts:** There are no known present or reasonably foreseeable other future actions underway at Chatham Manor or in its vicinity except Phases VI and VII of the trail. Construction of these additional trail sections would contribute to cumulative impacts on vegetation. The Chatham Manor landscape has remained substantially similar to its character over the past 150 years. Given the small nature of the trail and its footprint, and the effort to locate it as close as possible to an existing disturbed area (the River Road right-of-way), cumulative impacts to vegetation would be negligible to minor.



## 3.2 Cultural Resources

Chatham Manor, built in 1768, stands on a bluff commanding the head of navigation of the Rappahannock River and the City of Fredericksburg. It is part of the Fredericksburg and Spotsylvania Battlefields National Military Park, which is listed on the National Register of Historic Places and the Virginia and the Virginia Landmarks Register. During the Civil War, the Union army occupied Chatham beginning in the spring of 1862. President Abraham Lincoln visited his generals at Chatham during that period. In December 1862, Union generals again made Chatham headquarters, and both during and after the Battle of Fredericksburg, the house and grounds became a hospital for wounded soldiers. From the front porch of the house, and from its grounds, Union generals observed and directed the Battle of Fredericksburg, as it took place across the river. From the bottomland in front of Chatham, which includes the proposed project area, Union engineers constructed pontoon bridges that carried troops and material across the river into Fredericksburg. These temporary bridges were built in May 1862, December 1862, May 1863 and May 1864.

The main structures at Chatham were constructed between 1768 and 1771 and served as a domestic site for over 200 years. These structures sit atop the bluff, 80 feet above the river bottom and the proposed project area. In the most recent draft of the park's National Register of Historic Places documentation update, Chatham (NR # FR0138) is considered a contributing structure.

The Fredericksburg and Spotsylvania County Battlefields Memorial National Military Park was authorized by an act of Congress on February 14, 1927 (44 Stat. 1091). The purpose of the park, as stated in the act, is “to commemorate the Civil War battles of Fredericksburg, Spotsylvania Court House, Wilderness, and Chancellorsville, including Salem Church...” The legislation further states that the park shall “open, construct, and repair such roads, highways, paths, and other approaches as may be necessary to make the historical points accessible...” By Executive Order 6166 in 1933 the park was transferred to the Department of the Interior to be administered by the National Park Service.

Additionally, the park’s current General Management Plan (1986) states: *“Two trails will be developed cooperatively with other agencies/organizations - one along the abandoned railroad between the Fredericksburg and Wilderness battlefields and the other along the bluffs and riverside from Chatham to Falmouth...”*

The site today includes a mixture of overgrown vegetation on the slope of the ridge east of River Road. To the west of River Road, the ground is open a couple hundred yards to the banks of the Rappahannock River. Another, separate project that will commence in the fall of 2014 involves the selective clearing of existing trees in the river bottom area and the clearing of some trees and vegetation on the slope of the ridge to remove hazardous trees and improve sight lines to their historic appearance (USDI NPS, July 2014).

No archaeological resources are known to exist within the project area. Archaeological testing was conducted along the route of the trail through NPS lands and no resources were discovered (Dovetail Cultural Resource Group, June 2014).

**Impacts of No Action:** The No Action Alternative would result in no impact to the Chatham Manor property or other known cultural resources.

**Impacts of the Proposed Action/Mitigation:** The proposed action would have no effect on archaeological resources. It would add a non-historic feature to the historic landscape of Chatham Manor, but in a manner (at the base of the steep slope) that will minimize its view from the top of the bluff and the Chatham Manor grounds (Chatham Heights). The location of the trail has been sited to hug the slope so as to minimize its visibility from the terraces on the Chatham ridge. And, the proposed trail will utilize tinted asphalt that will have a muted color, and be free of a painted centerline or upright features, such as safety pylons, that may affect the visual perspective of the project area.

Archaeological testing has already been conducted along the route of the proposed trail extension to confirm that there are no significant artifacts or resources on NPS lands.

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## **3.3 Park Operations and Visitor Experience:**

### **3.3.1 Park Facilities and Operations**

Chatham Manor is one of eight sites included in the Fredericksburg-Spotsylvania National Military Park, which includes four separate, non-contiguous Civil War battlefields (Fredericksburg, Spotsylvania Court House, Chancellorsville and Wilderness) and four related sites (Chatham Manor, Salem Church, Jackson Shrine and the Fredericksburg National Cemetery). The headquarters administration buildings and offices for the FRSP complex are located at Chatham Manor. The Park as a whole generally has approximately 40 permanent employees and generally hires about 15 temporary employees. Of these, 8 use the Chatham Manor headquarters as their permanent work station.

**Impacts of No Action:** The No Action Alternative would result in no impact to park facilities or operations.

**Impacts of the Proposed Action:** Over the long-term, the trail would cause a minor, long-term indirect adverse effect by providing an alternative access and more opportunity for visitor use of the Chatham Manor property, and therefore contribute to more frequent maintenance.

**Cumulative Impacts:** The only other reasonably foreseeable future actions underway at Chatham Manor or in its vicinity that would contribute to cumulative impacts would be Phases VI and VII of the trail. The resulting anticipated increase in visitor use, and resulting wear on the Chatham Manor and other historic properties along the overall Belmont Ferry Farm trail system, is considered a negligible adverse cumulative impact.

### **3.3.2 Visitor Use and Experience**

The Fredericksburg-Spotsylvania National Military Park as a whole receives approximately 480,000 recreational visits per year, with an additional 1.07 million non-recreational visits, for a total of approximately 1.55 million visits per year. The two visitor centers are located at the Fredericksburg and Chancellorsville Battlefields, but Chatham Manor is also open to visitors (USDI NPS, January 2012). The NPS maintains exhibits on the house's history, and is restoring the Colonial-era gardens (The Washington Post, October 2013). Some of the most popular things to do in the Fredericksburg-Spotsylvania National Military Park are participating in ranger-guided activities, viewing audio-visual programs or exhibits at

visitor centers, hiking, picnicking, or just plain relaxing in the peaceful surroundings. Other opportunities include auto touring, biking, bird watching, horseback riding, and wildlife viewing.

There is also considerable non-recreational use of all the Fredericksburg-Spotsylvania National Military Park properties, as commuters and other locals cut through the various Park sites for shortcuts through town (USDI NPS, January 2012). The Chatham Manor property, located between Falmouth and downtown Fredericksburg, is strategically located for pedestrian/bicycle commuters.

**Impacts of No Action:** The No Action Alternative would result in no change in visitor use of Chatham Manor, but it would also fail to provide safe pedestrian and bicycle access to the Manor from surrounding neighborhoods or other historic points. Visitors would be forced to access Chatham Manor and the other historic resources in the area over dangerous area roads. The Belmont Ferry Farm Trail system would not be completed, and the existing trails would not be linked to other trails within Stafford County and the City of Fredericksburg.

**Impacts of the Proposed Action/Mitigation:** The construction activity would cause a short-term, direct adverse effect by generating noise and disturbance along River Road and the floodplain part of the Chatham Manor property, which for its duration could detract from the visitor experience. The effects on visitors to the Manor itself on the main part of the property would be minimal; the distance, the foliage, and the elevation drop between the overlook on the main part of the property and the floodplain should buffer noise and, to a large extent, the visitors' view of the activity.

Over the long-term, the trail would be slightly visible to visitors from certain vantage points of the overlook in the front of the Manor. The placement of the trail close to the base of the slope, the use of "earth-tone"-colored pavement, the lack of striping, and the lack of railings will all help mitigate the appearance of the trail from this vantage point.

Over the long-term, the trail would cause a moderate beneficial impact providing other modes to access the Manor (by foot or bicycle), and thus, more opportunity for visitor use of the Manor property. It would also improve the visitor experience by connecting Chatham Manor with the other historic and cultural sites in the vicinity, allowing a better understanding of the role of the Manor in local history.

**Cumulative Impacts:** The only other reasonably foreseeable future actions underway at Chatham Manor or in its vicinity that would contribute to cumulative impacts would be Phases VI and VII of the trail, which will connect the overall trail system to Ferry Farm to the south and Belmont to the west, and facilitate the visitor's opportunity to link with other historic and cultural sites. The resulting anticipated increase in visitor use and enhancement of the visitor experience is considered a moderate beneficial cumulative impact.

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## 3.4 Social and Economic Environment

### 3.4.1 Human Health and Safety

FRSP provides information about visitor safety through pre-visit information by mail and on the web, visitor contacts, and orientation bulletin boards. The Park has safety plans that address winter operations, hazardous tree management, search and rescue, and emergency medical services. The NPS has 3

emergency medical technicians (EMTs) and 2 emergency medical responders (EMRs) on staff, but also relies on local fire and emergency services for assistance with emergencies.

The proposed route of the trail is largely open. There are some clusters of trees along the floodplain portion of the route, and the areas where the trail would ascend the slopes to the John Lee Pratt Memorial Park and the State Route 3 Bridge are forested, and quite steep.

There are two access points from River Road for vehicular access to the floodplain portion of the trail. These openings are used as access for mowing by NPS. However, most of the floodplain portion of the property is open to River Road, with no guard rail. The portions of the trail off the Manor property can be accessed from John Lee Pratt Memorial Park and the State Route 3 Bridge.

**Impacts of No Action:** The No Action Alternative would have no impact on visitor health and safety at Chatham Manor, or the John Lee Pratt Memorial Park.

**Impacts of the Proposed Action/Mitigation:** The construction contractor workers must follow VDOT construction safety specifications and practices. The construction activity will therefore have a negligible impact on human health and safety.

The trail would cause a minor, long-term adverse impact on human health and safety simply by increasing human presence on NPS property, and increasing the potential for human interaction and therefore accidents. The potential for accidents will be mitigated through trail design, which will meet VDOT and American Association of State Highway and Transportation Officials (AASHTO) safety standards. The design calls for cut and fill to flatten the slopes where the trail will climb the hill at either end. Through the floodplain, the trail will be constructed close to the original grade, with gradual shoulders, in case a cyclist veers off the trail. Other mitigation measures will include:

- Removable bollards at the entrances to the trail to allow for emergency vehicle access.
- Frequent inspections adjacent to the trail to monitor and remove:
  - Poison ivy.
  - Deposited river debris, leaf piles, honeysuckle or briar thickets immediately adjacent to the trail that can pose a potential fire hazard, as well as a location for mice, snakes, etc. to hide.
  - Dead trees and/or dead branches that pose overhead hazards to trail users.
  - Signage on the trail during high fire risk days, to notify trail users of the potential hazard.

**Cumulative Impacts:** The only other reasonably foreseeable future actions underway at Chatham Manor or in its vicinity that would contribute to cumulative impacts would be Phases VI and VII of the trail. While to some extent these connections could facilitate more visitor access, and therefore more human activity and potential for accidents, the cumulative effect is likely to be negligible because similar safety measures are likely to be employed in constructing these trails, which would help keep the risk of accidents low.

### 3.4.2 Transportation

The proposed project site is accessed from the north from downtown Falmouth and Fredericksburg via US Route 1 and River Road. It is accessed from the South from State Route 3 to River Road or Chatham Heights Road.

**Impacts of No Action:** The No Action Alternative would have no impact on existing transportation facilities.

**Impacts of the Proposed Action/Mitigation:** During construction, the proposed project may have a short-term, direct adverse effect on traffic along River Road, as construction machinery enters and exits the site. These occasions would be brief, and probably not exceed a few times per day. The proposed project is itself another transportation facility, and would likely have a beneficial long-term indirect impact on area roadways. It would help complete the Belmont Ferry Farm Trail system, and provide another means of travel for commuters in the Stafford/Fredericksburg area. This alternative will help counteract increases in area traffic.

**Cumulative Impacts:** The proposed project, together with previous and future phases of the Belmont Ferry Farm Trail, would have a beneficial cumulative impact by reducing the need for commuter vehicles on area roadways, and counteracting increases in area traffic.

### 3.4.3 Recreational Resources

John Lee Pratt Memorial Park, St. Clair Brooks Memorial Park, and the Historic Port of Falmouth Park Park lay to the northwest of Chatham Manor. John Lee Pratt Memorial Park offers picnic shelters, grills, basketball courts, tennis courts, Frisbee disc golf course, a horseshoe pit, a one-mile gravel track, a one-mile walking / biking trail, nature trails, a baseball field, 10 soccer fields, and restrooms. St. Clair Brooks Memorial Park offers wooded parkland with three picnic shelters, grills, nature trails, basketball courts, a sand volleyball court, a horseshoe pit, a skate park, playground equipment, two baseball fields, a football field, and restrooms. Picnic tables and grills are located throughout both parks. The Historic Port of Falmouth Park offers a beach along the Rappahannock River for fishing and picnic tables (Stafford County Parks, Recreation, and Community Facilities Webpage, June 2014). The Manor itself offers ranger-guided activities, hiking, picnicking, etc. These parks are presently connected by the trail phases that have been constructed to date. There is also a system of trails traversing the waterfront on the Fredericksburg side of the river.

**Impacts of No Action:** The No Action Alternative would have no impact on existing recreational facilities.

**Impacts of the Proposed Action/Mitigation:** The construction activity would generate noise which would have a short-term, minor direct adverse impact on recreation at the nearby parks. This effect would be felt more by those people participating in passive recreational activities, such as walking the nature trails or picnicking, than those people participating in active sports such as soccer, football and baseball, which themselves are noisy. The proposed project would have a moderate beneficial long-term indirect impact on the parks. By helping to complete the Belmont Ferry Farm Trail system, it would make the parks more accessible to each other and downtown Falmouth and Fredericksburg, as well as provide a recreational resource in its own right.

**Cumulative Impacts:** The proposed project, together with previous and future phases of the Belmont Ferry Farm Trail, would have a beneficial cumulative impact on recreational resources in the area, by linking these resources.



## 4 Continuing Consultation, Coordination, and Public Participation

It is the Park's objective to work with state, federal, and local governmental and private organizations to ensure that the Park and its programs are coordinated with theirs, and are supportive of their objectives, as far as proper management of the Park permits, and that their programs are similarly supportive of Park programs. In addition to sending scoping letters, the NPS also coordinated with the following agencies to identify sensitive resources and ensure that the proposed project would not impact these resources:

- Virginia Department of Conservation and Recreation, Natural Heritage Program.
- Virginia Department of Game and Inland Fisheries.
- Virginia Department of Historic Resources.
- US Fish and Wildlife Service.

Project review packages were submitted to obtain information on the presence/absence and impacts on of threatened and endangered species and their habitats, or, in the case of the Virginia Department of Historic Resources, important cultural resources. The results of this coordination have been addressed in the EA.

The National Historic Preservation Act, Section 106 compliance has been completed. Archaeological testing was completed for the area, and no remains were found. This led to the park's finding of No Adverse Effect with the park's 106 advisors concurring. The Virginia Department of Historic Resources, SHPO concurs with the park's finding of No Adverse Effect.

This EA will also serve as the Coastal Zone Consistency Determination for coordination with the Coastal Zone Management Act of 1972. Congress enacted the Coastal Zone Management Act to "preserve, protect, develop and, where possible, to restore and enhance the resources of the nation's coastal zone for this and succeeding generations." The Coastal Zone Management Act (CZMA) of 1972 gives states with federally approved coastal programs the lead in coordinating and strengthening coastal zone management activities of all levels of government. Specifically, the CZMA gives state coastal programs the ability to require federal agencies to carry out their activities within the coastal zone in ways that are consistent with the state coastal program's policies. Federal consistency is the review of federal projects for consistency with state coastal policies. Federal consistency applies to any activity that is in, or affects land use, water use or any natural resource in the coastal zone, if the activity is conducted by or on behalf of a federal government agency, requires a federal license or permit, receives federal funding, or is a plan for exploration, development or production from any area leased under the Outer Continental Shelf Lands Act. The Virginia Coastal Resources Management Program was established in 1986 to protect and manage an area known as Virginia's "coastal zone." This zone encompasses 29 counties, 17 cities and 42 incorporated towns in "Tidewater Virginia," including Stafford County, and therefore is required for this project.

The issues or recommendations raised by the scoping process were:

- The Stafford County Fire Chief requested that there be mile markers or some other point of reference along the trail for callers who are reporting an emergency, and that access points for emergency vehicles be provided (Lockhart, July 2013).
- The Virginia Department of Forestry recommended an inspection of vegetation adjacent to the trail, before the trail is initially opened, as well as periodically once the trail is in use. Specifically, they recommended project proponents consider the presence or use of:
  - Poison ivy, which poses a slight health risk to trail users.

- Deposited river debris, leaf piles, honeysuckle or briar thickets immediately adjacent to the trail that can pose a potential fire hazard, as well as a location for mice, snakes, etc. to hide. These conditions cannot be eliminated entirely; however, regular inspections may reduce their occurrence.
- Dead trees and/or dead branches that pose overhead hazards to trail users. These conditions can be found in any forest; however, the area in which this trail will be installed probably has a number of ash trees that are targets of the emerald ash borer which may cause tree mortality in the future.
- Signage on the trail during high fire risk days, to notify trail users of the potential hazard. Also, the trail needs to be accessible by fire department personnel in case of fire. Any guard rail between the trail and River Road should be equipped with access points to allow entry of emergency vehicles (Snoddy, July 2013).
- The Virginia Department of Conservation and Recreation (VDCR) Division of Natural Heritage (DNH) indicated that the yellow lance freshwater mussel had been documented downstream from the project site in the Rappahannock River. Mussels are sedentary organisms and as such, sensitive to water quality degradation related to increased sedimentation and pollution. To minimize adverse effects, the VDCR recommended implementation of and strict adherence to applicable state and local erosion and sedimentation control / stormwater management laws and regulations (Baird, May 2013).
- The VDCR Land & Water Conservation Fund (LWCF) and Recreational Trails Program (RTP) Administrator indicated that, since the project in question, in essence, would expand the existing trail within Pratt Park, it could be considered a recreational facility and would not constitute a conversion of use under Section 6(f) of the Land and Water Conservation Fund Act (Waymack, August 2013).
- The Virginia Department of Game and Inland Fisheries (VDGIF) responded that the Rappahannock River is a designated anadromous fish use water, and designated threatened and endangered species water for the state threatened green floater mussel. Based on the project scope and location, the VDGIF does not anticipate the project to result in adverse impact to resources within their purview, provided the construction contractor adheres to the following:
  - Use erosion and sedimentation controls for all ground disturbance.
  - Design stormwater controls to replicate and maintain the hydrographic condition of the site prior to the change in landscape, if practicable, to minimize overall impacts to wildlife and natural resources. This should include approaches such as using bioretention areas and minimizing the use of curb and gutter in favor of grassed swales. The VDGIF also recommended constructing parking areas, access roads, trails, sidewalks, and staging areas of pervious surface.
  - Staging work from the top of bank if instream work becomes necessary (no machines instream). If necessary, in-stream activities should be: constructed during low or no-flow conditions, using non-erodible cofferdams to isolate the construction area and blocking no more than 50 percent of the streamflow at any given time; stockpiling excavated material in a manner that prevents reentry into the stream; restoring original streambed and streambank contours; revegetating barren areas with native vegetation; and, implementing strict erosion and sediment control measures. Concrete and debris should not be allowed to enter the water. Stream crossings should be constructed to allow passage of aquatic organisms, i.e., using clear-span bridges, if possible; or if not, countersinking any culverts below the streambed at least six inches or using bottomless culverts. The VDGIF also recommended the installation of floodplain culverts to carry bankfull discharges. If impacts to wetlands and streams are proposed, the VDGIF will

review the Joint Permit Application (JPA) when it becomes available and provide comments, as appropriate (Aschenbach, May 2013).

- The Virginia Department of Land Protection and Revitalization (VDPLPR) provided general information about the need to comply with applicable Federal, state, and local laws and regulations, and noted that the VDEQ's petroleum contamination case files may identify petroleum releases that should be evaluated to establish the location, nature, and extent of any petroleum releases in the project area. The VDPLPR representative recommended contacting the DEQ's Northern Virginia Regional Office Tank Program for further information (Coe, July 2013).
- The Stafford County Department of Planning and Zoning (DPZ) representative indicated that his only concern was the location of the proposed project within the 100-year floodplain, and that he would appreciate the opportunity to review the first draft. The DPZ also provided information on Community Resources (Harbin, July 2013).
- The Virginia Outdoors Foundation (VOF) reviewed this project. As of the date of their comments, there were no existing or proposed VOF open-space easements in the project's immediate vicinity (Hallock-Solomon, July 2013).
- A "no effect" determinations for federally listed species was made and the "no Eagle Act permit required" determination was also made. A print-out of the US Fish and Wildlife Service (USFWS) Online Project Review Certification Letter and USFWS Online Project Review Package was transmitted to the USFWS Gloucester, VA, Ecological Services Office on June 25, 2013 and saved to the project file. The emails and other supporting documentation for the above comments are attached in Appendix A.

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## **4.1 Coastal Zone Management Act Consistency Determination**

This document provides the Commonwealth of Virginia with the National Park Service's Consistency Determination under the Coastal Zone Management Act, sections 307(c)(1) [or (2)] and 15 CFR Part 930, sub-part C, for the Environmental Assessment for allowing the construction of Phase IV of the Belmont Ferry Farm Trail across the Chatham Manor Property. This activity includes the work detailed in section 2.2.2 of this EA.

The NPS has determined that the proposed action alternative affects the land or water uses or natural resources of Virginia as detailed in Chapter 3 of the EA. The Virginia Coastal Resources Management Program contains the following enforceable policies:

- Fisheries Management.
- Subaqueous Lands Management.
- Wetlands Management.
- Dunes Management.
- Non-point Source Pollution Control.
- Point Source Pollution Control.
- Shoreline Sanitation.
- Air Pollution Control.
- Coastal Lands Management.

Based upon the following information, data, and analysis, the NPS finds that the proposed trail is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program. The proposed action would have negligible to minor impacts on:

- Fisheries Management
- Wetlands management.
- Air pollution control.
- Non-point source pollution control (during construction).

None of the other resources addressed by the enforceable policies would be affected.

Pursuant to 15 CFR Section 930.41, the Virginia Coastal Resources Management Program has 60 days from the receipt of this document in which to concur with or object to this Consistency Determination, or to request and extension under 15 CFR Section 930.41(b). Virginia's concurrence will be presumed if its response is not received by the NPS on the 60th day from receipt of this determination. The State's response should be sent to:

Gregg Kneipp  
Fredericksburg and Spotsylvania National Military Park  
120 Chatham Drive  
Fredericksburg, VA 22405  
U.S. Department of the Interior Environmental Assessment  
National Park Service for a new Fire Management Plan  
Fredericksburg and Spotsylvania National Military Park January, 2012

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## 4.2 Public Notice

In order to give the public and all interested parties a chance to review the EA, it will be noticed for public comment for a minimum of 60 days through local newspapers and on the world-wide-web. During this 60-day period, the EA will be available for review at:

- The Visitor Center of the Fredericksburg and Spotsylvania National Military Park located at 120 Chatham Lane, Fredericksburg, Virginia 22405;
- On the NPS Planning, Environment, and Public Comment web site (PEPC) at <http://parkplanning.nps.gov/frsp>.

It will also be sent to applicable Federal, State, and local agencies for their review and comment.

## **List of Preparers**

Gregg Kneipp, Natural Resources Manager, Fredericksburg and Spotsylvania National Military Park.

Eric Mink, Cultural Resources Manager, Fredericksburg and Spotsylvania National Military Park.

Janet O'Neill, NEPA & Wetlands Specialist, Rinker Design Associates, P. C.

Brian Komar, Project Engineer, Rinker Design Associates, P. C.

Kyle Loving, Engineer/CAD/GIS Specialist, Rinker Design Associates, P. C.



## Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CZMA	Coastal Zone Management Act
DNH	Division of Natural Heritage
DO	Director's Order
DPZ	Department of Planning and Zoning
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMRs	Emergency Medical Responders
EMTs	Emergency Medical Technicians
FAMPO	Fredericksburg Area Metropolitan Planning Organization
FHWA	Federal Highways Administration
FONSI	Finding of No Significant Impact
FRSP	Fredericksburg and Spotsylvania National Military Park
ISTEA	Intermodal Surface Transportation Efficiency Act
JPA	Joint Permit Application
LWCR	Land and Water Conservation Fund
NEPA	National Environmental Policy Act of 1969, as amended
NPS	National Park Service
NRCS	National Resources Conservation Service
PCB	Polychlorinated biphenyl
RTP	Recreational Trails Program
TMDLs	Total Maximum Daily Loads
USC	United States Code
USDI	US Department of Interior
USFWS	US Fish and Wildlife Service
VAC	Virginia Administrative Code
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VDHR	Virginia Department of Historic Resources
VDOT	Virginia Department of Transportation
VDPLPR	Virginia Department of Land Protection and Revitalization
VEGIS	Virginia Environmental Geographic Information Systems
VOF	Virginia Outdoors Foundation

## Bibliography

Aschenbach, Ernie. May 2013. Email dated May 24, 2013 with VDGIF Project Review comments on Belmont Ferry Farm Trail.

Baird, Allie. May, 2013. Letter dated May 24, 2013 with VDCR DNH Natural Heritage Review comments on Belmont Ferry Farm Trail.

Coe, Steve. July 2013. Email dated July 19, 2013, with DEQ Division of Land Protection & Revitalization comments on Belmont Ferry Farm Trail.

Dovetail Cultural Resource Group, June 2014. *Archaeological Survey of the Falmouth Bicycle/Pedestrian Trail (Phase 4) along River Road in Stafford County, Virginia.*

Federal Emergency Management Agency, February 2005. Flood Insurance Rate Maps 5101540204E and 5101540212E.

FHWA Environmental Review Toolkit Website, October 2013. *Section 4(f) Program Overview*. Available at: <http://www.environment.fhwa.dot.gov/4f/index.asp>

Hallock-Solomon, Mike. July 2013. Email dated July 23, 2013, with VOF comments on Belmont Ferry Farm Trail.

Harbin, John. July 2013. Email dated July 30, 2013, with County Environmental Planner comments on Belmont Ferry Farm Trail.

Lockhart, Mark. July 2013. Email dated July 30, 2013 from County Fire Chief with Fire Department comments on Belmont Ferry Farm Trail.

NRCS, Official Series Description Website, February 2013a. *Congaree Series*. Accessed by Patty Karchner of RDA, February 21, 2013, at [https://soilseries.sc.egov.usda.gov/OSD\\_Docs/C/CONGAREE.html](https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CONGAREE.html)

NRCS Official Series Description Website, February 2013b. *Sassafras Series*. Accessed by Patty Karchner of RDA, February 21, 2013, at [https://soilseries.sc.egov.usda.gov/OSD\\_Docs/S/SASSAFRAS.html](https://soilseries.sc.egov.usda.gov/OSD_Docs/S/SASSAFRAS.html)

NRCS Official Series Description Website, February 2013c. *Galestown Series*. Accessed by Patty Karchner of RDA, February 21, 2013, at [https://soilseries.sc.egov.usda.gov/OSD\\_Docs/G/GALESTOWN.html](https://soilseries.sc.egov.usda.gov/OSD_Docs/G/GALESTOWN.html)

NRCS Official Series Description Website, February 2013d. *Aura Series*. Accessed by Patty Karchner of RDA, February 21, 2013, at [https://soilseries.sc.egov.usda.gov/OSD\\_Docs/A/ALTAVISTA.html](https://soilseries.sc.egov.usda.gov/OSD_Docs/A/ALTAVISTA.html)

NRCS Websoil Survey, February 2013. Soil Map of Project Site generated by Patty Karchner of RDA, February 21, 2013, by accessing <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Snoddy, Thomas. July, 2013. Email dated July 24, 2013 with VDOF Review comments on Belmont Ferry Farm Trail.

Stafford County Code. Chapter 11: Erosion and Sediment Control Ordinance of Stafford County, Virginia. Articles I and II. Available at: <https://library.municode.com/>

Stafford County Comprehensive Plan –Natural Resources, 2010. Accessed by Janet O’Neill, October 3, 2013, at: <http://stafford.va.us/index.aspx?NID=1076>

Stafford County Comprehensive Plan – Parks & Recreation, 2010. Accessed by Janet O’Neill, October 3, 2013, at: <http://stafford.va.us/index.aspx?NID=1076>

Stafford County Comprehensive Plan –Future Land Use Map, 2011. Accessed by Janet O’Neill, June 24, 2014, at: <http://staffordcountyva.gov/DocumentCenter/Home/View/601>

Stafford County Comprehensive Plan –Transportation Plan, 2010. Accessed by Janet O’Neill, October 3, 2013: <http://stafford.va.us/index.aspx?NID=1076>

Stafford County Fire & Rescue Department Webpage, June 2014. Accessed by Janet O’Neill, June 23, 2014: <http://www.staffordfirerescue.com/content/department/>

Stafford County Parks & Places Webpage, Fall 2013. Accessed by Janet O’Neill, October 2, 2013 at <http://www.staffordparks.com/DocumentCenter/View/47> (use Park and Pool Hours link).

Stafford County Parks, Recreation, and Community Facilities Webpage, June 2014. Accessed by Janet O’Neill, June 30, 2014:

- <http://www.staffordparks.com/facilities/Facility/Details/8>
- <http://www.staffordparks.com/facilities/facility/details/Saint-Clair-Brooks-Park-9>
- <http://www.staffordparks.com/facilities/Facility/Details/6>

The Washington Post, October 2013. “Chatham Manor.” (Museums Review Section). Accessed by Janet O’Neill, October 14, 2013 at <http://www.washingtonpost.com/gog/museums/chatham-manor,1027959/critic-review.html>

US Department of Interior (USDI) NPS (National Park Service), July 2014. Agency Official 106 Effect Report: Belmont to Ferry Farm Trail, Chatham Manor, Stafford, Virginia.

USDI NPS, January 2012. *Environmental Assessment for a New Fire Management Plan, Fredericksburg & Spotsylvania National Military Park.*

USDI NPS, 2008. DO 12 Handbook. Washington, D.C.

USDI NPS, 2008a. Procedural Manual for Wetland Protection.

USDI NPS, 2008b. Procedural Manual for Floodplain Management.

USDI NPS. 2006. Management Policies. Washington, D.C.

NPS, 2002. DO 77-1 – Wetland Protection.

USDI NPS, July 1996. *Fredericksburg & Spotsylvania National Military Park Environmental Assessment of Chatham Bike Trail.*

USDI NPS, July 1996a. *Fredericksburg & Spotsylvania National Military Park Record of Decision and Finding of No Significant Impact Chatham Bike Trail*

US Environmental Protection Agency Water Website, February 2014. Accessed by Janet O’Neill February 18, 2014 @ <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl>



Virginia Department of Environmental Quality Air Quality Website, October 2013. Accessed by Janet O'Neill, October 31, 2013 @ <http://www.deq.virginia.gov/Programs/Air.aspx>

- Air Quality Planning Areas for the Commonwealth of Virginia (Map). Accessed by Janet O'Neill, October 31, 2013 @ <http://www.deq.virginia.gov/Portals/0/DEQ/Air/Planning/planmap08.pdf>

Virginia Department of Environmental Quality *Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report* Website, February, 2014. Accessed by Janet O'Neill February 17, 2014 @

- [http://www.deq.state.va.us/Portals/0/DEQ/Water/WaterQualityAssessments/IntegratedReport/2012/ir12\\_Appendix1a\\_Category5\\_List.pdf](http://www.deq.state.va.us/Portals/0/DEQ/Water/WaterQualityAssessments/IntegratedReport/2012/ir12_Appendix1a_Category5_List.pdf)

Virginia Department of Environmental Quality VEGIS Website, Water Quality Assessment GIS Applications, February 2014. Accessed by Janet O'Neill, Chris Ruck @

- fish consumption: [http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=public/2012\\_adb\\_fishconsump#](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/2012_adb_fishconsump#)
- recreation: [http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=public/2012\\_adb\\_rec#](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/2012_adb_rec#)
- aquatic life: [http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=public/2012\\_adb\\_aqualife#](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/2012_adb_aqualife#)
- shellfish: [http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=public/2012\\_adb\\_shellfish](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/2012_adb_shellfish)
- wildlife: [http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=public/2012\\_adb\\_wildlife](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/2012_adb_wildlife)
- Any use [http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=public/2012\\_adb\\_anyuse](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/2012_adb_anyuse)

(Virginia Department of Game and Inland Fisheries Website, June 20, 2014). Rappahannock River – Tidal. Accessed by Janet O'Neill @ <http://www.dgif.virginia.gov/fishing/waterbodies/display.asp?id=201>

Waymack, Synthia. August, 2013. Email dated May 24, 2013 with VDCR Land & Water Conservation Fund (LWCF) and Recreational Trails Program (RTP) Administrator comments on Belmont Ferry Farm Trail.