

Attachment F:
Final Section 4(f) Evaluation

Final Section 4(f) Evaluation Errata Sheet

Since publication of the June 1, 2016 Potomac Yard Metrorail Station Final Section 4(f) Evaluation, FTA, the City of Alexandria, and WMATA have identified a number of minor items in the Final Section 4(f) Evaluation that warrant clarification or correction to promote reader understanding. In all cases, FTA has determined that the nature of these items is minor and does not substantially change the determinations and decisions of FTA.

Page	Final Section 4(f) Evaluation reads	Correction
D-18	Table 5-1, Total (acres) of Use for George Washington Memorial Parkway is 0.41-0.75 acre.	Total (acres) of Use for George Washington Memorial Parkway is 0.58 acre.
D-18	Table 5-1, Total (acres) of Use for Mount Vernon Memorial Highway is 0.41-0.75 acre.	Total (acres) of Use for Mount Vernon Memorial Highway is 0.58 acre.
D-18	Table 5-1, Total (acres) of Use for Greens Scenic Area Easement is 4.57-5.03 acres.	Total (acres) of Use for Greens Scenic Area Easement is 4.80 acres.
D-19	Table 5-2, Total (acres) of Use for George Washington Memorial Parkway is 0.41-0.75 acre.	Total (acres) of Use for George Washington Memorial Parkway is 0.58 acre.
D-19	Table 5-2, Total (acres) of Use for Mount Vernon Memorial Highway is 0.41-0.75 acre.	Total (acres) of Use for Mount Vernon Memorial Highway is 0.58 acre.
D-19	Table 5-2, Total (acres) of Use for Parkways of the National Capital Region is 0.41-0.75 acre.	Total (acres) of Use for Parkways of the National Capital Region is 0.58 acre.
D-19	Table 5-2, Total (acres) of Use for Greens Scenic Easement is 4.57-5.03 acres.	Total (acres) of Use for Greens Scenic Area Easement is 4.80 acres.
D-22	Line 583: "The Preferred Alternative would require total use of 0.41 to 0.75 acre of the GWMP..."	"The Preferred Alternative would require the total use of 0.58 acre of the GWMP..."
D-23	Line 643: "The Preferred Alternative would require the total use of 0.41 to 0.75 acre of the MVMH..."	"The Preferred Alternative would require the total use of 0.58 acre of the MVMH..."
D-25	Line 725: "The Preferred Alternative would require the total use of 4.57 to 5.03 acres of the Greens Scenic Area easement..."	"The Preferred Alternative would require the total use of 4.80 acres of the Greens Scenic Area easement..."
D-30	Line 921: "...the Virginia Railway Express (VRE), the Virginia Department of Rail and Public Transportation (DRPT), and Amtrak provided comments during the Draft EIS comment period opposing B-CSX Design Option..."	"...the Virginia Railway Express (VRE) and the Virginia Department of Rail and Public Transportation (DRPT) provided comments during the Draft EIS comment period opposing B-CSX Design Option..."

POTOMAC YARD METRORAIL STATION

Appendix D: Final Section 4(f) Evaluation

June 2016



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1.0 INTRODUCTION

This evaluation discusses the effects of the Potomac Yard Metrorail Station project on publicly owned parklands, publicly owned wildlife and waterfowl refuges, and historic properties (whether publicly or privately owned) eligible for protection under the provisions of Section 4(f) of the U.S. Department of Transportation Act of 1966 (commonly referred to as Section 4(f)). This Section 4(f) evaluation has been prepared in accordance with the joint Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) regulations for Section 4(f) compliance as codified in 23 CFR Part 774. In addition, this analysis also relied on FHWA's 2012 *Section 4(f) Policy Paper*, which supplements the Section 4(f) regulations and has been adopted by FTA.

2.0 LEGAL AND REGULATORY REQUIREMENTS

Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. § 303), as amended, protects publicly owned parks and recreational lands; publicly owned wildlife and waterfowl refuges; and historic sites of national, state, or local significance (whether publicly or privately owned) from acquisition or conversion to transportation use. Under Section 4(f), the use of such lands for transportation purposes can occur only if there is no feasible and prudent avoidance alternative to such use, and if the project includes all possible planning to minimize harm to those resources. The authority to administer Section 4(f) and make Section 4(f) approvals resides with the FTA Regional Administrator, as delegated by the Secretary of the U.S. Department of Transportation (DOT).

Section 4(f) does not apply to parks, recreational areas, and wildlife and waterfowl refuges if these land uses are privately owned. However, Section 4(f) does apply to all historic sites that are listed or eligible for listing in the National Register of Historic Places (NRHP), regardless of whether they are publicly or privately owned. Section 4(f) also applies to archaeological sites on or eligible for inclusion in the NRHP and that warrant preservation in place. Per the exception in the Section 4(f) regulations at 23 CFR 774.13(b), Section 4(f) does not apply when FTA determines, and the State Historic Preservation Office (SHPO) concurs, that the archeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place.

Section 4(f) regulations require FTA to consult with the Department of Interior (DOI) when FTA makes a Section 4(f) finding or when a project would use property managed by DOI and, as appropriate, the involved offices of the Department of Agriculture (USDA) and the Department of Housing and Urban Development (HUD). FTA must also consult with relevant State and local officials, in developing transportation projects and programs that use lands protected by Section 4(f). Consultation with the USDA would occur whenever a project uses Section 4(f) land from the National Forest System. Consultation with HUD would occur whenever a project uses Section 4(f) land for/on which certain HUD funding has been used. Since neither of these conditions apply to the project, consultation with HUD and USDA is not required.

Section 4(f) also provides specific consultation roles for the owners and/or managers of Section 4(f) properties as officials with jurisdiction. For historic sites listed in or eligible for the NRHP, the SHPO is the official with jurisdiction and generally fulfills their role under Section 4(f) through their role in the Section 106 consultation process.

2.1 Use under Section 4(f)

Section 4(f) applies to protected resources when a “use” occurs. A “use” can be permanent, temporary, or constructive, as defined below.

2.1.1 Permanent Use

Pursuant to 23 CFR 774.17, permanent use includes acquisition and incorporation of all or a portion of the resource into the transportation facility; it includes fee simple and permanent easement use as well as temporary easements that exceed regulatory limits.

2.1.2 Temporary Use and Temporary Occupancy

As defined in 23 CFR 774.13 (d), temporary use occurs when a transportation project temporarily occupies any portion of the resource and results in an adverse condition in terms of the preservation purpose of Section 4(f). A temporary occupancy of property does not constitute a use of a Section 4(f) resource when all of the following conditions are satisfied:

- Duration is less than the time needed for the construction of the project and there is no change in ownership of the land;
- The nature and magnitude of the changes to the Section 4(f) property are minimal;
- There is no anticipated permanent adverse physical impact, nor is there interference with the protected activities, features, or attributes of the property on either a temporary or permanent basis;
- The land being used will be fully returned to a conditions at least as good as that which existed prior to the project; and
- There is a documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

If the conditions in 23 CFR 774.13 (d) are met, the exception for temporary occupancy applies in which there is no “use” of the Section 4(f) property. If the criteria in 23 CFR 774.13(d) are not met, the use is evaluated as permanent.

2.1.3 Constructive Use

As defined by 23 CFR 774.15 (a), constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the resource for project under Section 4(f) are substantially impaired. Substantial impairment occurs when the value of the resource, in terms of its Section 4(f) purpose and significance, will be meaningfully reduced or lost.

2.2 De Minimis Impact Finding

The requirements of Section 4(f) are satisfied with respect to a Section 4(f) resource if it is determined by the FTA that the use of the Section 4(f) property, including any measure(s) to minimize harm will have *de minimis* impact (23 CFR 774.3 (b)) on the Section 4(f) resource. The *de minimis* impact determination does not require the inclusion of all possible planning to minimize harm because avoidance, minimization, mitigation, or enhancement measures are included as part of the *de minimis* determination. The official(s) with jurisdiction over the resource must be notified of the Agency’s determination. 23 CFR 774.17 defines a *de minimis* impact as follows:

- For parks, recreation areas, and wildlife/waterfowl refuges, a *de minimis* impact is one that would not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f), and the official with jurisdiction has concurred with this determination after there has been an opportunity for public review and comment.
- For historic sites, *de minimis* impact means that the FTA has determined, in accordance with 36 CFR Part 800, that either no historic property is affected by the project, or the project would have “no adverse effect” on the property in question through consultation under Section 106 of the National Historic Preservation Act (NHPA), and the SHPO concurs with that determination. The official with jurisdiction must be notified that the FTA intends to make a *de minimis* impact finding based on their concurrence with the “no adverse effect” determination under 36 CFR Part 800. Compliance with 36 CFR Part 800 satisfies the public involvement and agency coordination requirement for *de minimis* impact findings for historic sites.

2.3 Feasible and Prudent Avoidance Alternatives under Section 4(f)

Under Section 4(f), the use of public lands for transportation purposes (other than use that has been determined to have *de minimis* impact) may only occur if no feasible and prudent avoidance alternative to such use exists and if the project includes all possible planning to minimize harm to resources from such use. A feasible and prudent avoidance alternative, as defined in 23 CFR 774.17, avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) property. An alternative is determined feasible if it can be built “as a matter of sound engineering judgment.” Per 23 CFR 774.117, an alternative is not prudent if:

1. It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
2. It results in unacceptable safety or operational problems;
3. After reasonable mitigation, it still causes:

- a. Severe social, economic or environmental impacts;
 - b. Severe disruption to established communities;
 - c. Severe disproportionate impacts to minority or low-income populations; or
 - d. Severe impacts to environmental resources protected under other Federal statutes;
4. It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
 5. It causes other unique problems or unusual factors; or
 6. It involves multiple factors in 1 through 5 above that while individually minor; cumulatively cause unique problems or impacts of extraordinary magnitude.

If no prudent and feasible alternative exists, the project must include all possible planning to minimize harm to the Section 4(f) resource, which includes all reasonable measures to minimize harm or mitigate impacts (49 U.S.C. 303(c)(2)). If no feasible and prudent avoidance alternative exists, FTA must select the project alternative that causes the least overall harm in light of the statute's preservation purpose. The least overall harm is determined by balancing the following factors:

1. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
2. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
3. The relative significance of each Section 4(f) property;
4. The views of the official(s) with jurisdiction over each Section 4(f) property;
5. The degree to which each alternative meets the purpose and need for the project;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
7. Substantial differences in costs among the alternatives.

3.0 DESCRIPTION OF THE PROPOSED ACTION

The proposed action consists of construction of a new Metrorail Station located at Potomac Yard within the City of Alexandria along the existing Metrorail Blue and Yellow Lines between the Ronald Reagan Washington National Airport Station and the Braddock Road Station. The project would serve existing neighborhoods and retail centers, as well as high-density, transit-oriented development planned by the City of Alexandria. The project would provide access to the regional Metrorail system for the U.S. Route 1 corridor of north Alexandria, which is currently without direct access to the system.

This Section 4(f) Evaluation was prepared in conjunction with the Potomac Yard Metrorail Station Final Environmental Impact Statement (Final EIS). The Final EIS Chapter 1, Purpose and Need, and Chapter 2, Alternatives Considered, Section 2.5.2 Preferred Alternative, provide the complete description of the proposed action, and Chapter 2 also illustrates the alternatives considered in this report. Sections 3.9 and 3.10 of the Final EIS describe the historic sites and parkland resources in the study area, respectively.

4.0 SECTION 4(F) RESOURCES

Section 4(f) resources in the study area include existing and planned publicly owned parks, as well as historic sites (both structures as well as archaeology sites) listed in or eligible for the NRHP. Historic sites are significant only if they are listed in or eligible for the NRHP.

Several existing and planned private open space areas were identified within the study area, as well as planned public open spaces that are currently on privately owned land. None of these is considered a Section 4(f) resource because none is currently publicly owned, as identified in FHWA's 2012 *Section 4(f) Policy Paper* (Questions 7A and 25). For planned parks that are currently on both private and public property, only the publicly owned portions are considered Section 4(f) resources.

Table 4-1 lists properties that were identified in the study area, but would not be used by the Preferred Alternative or protected under Section 4(f). Six properties protected by Section 4(f) are assessed in this evaluation and are listed in **Table 4-2**. Each property was determined to be of national, state, or local significance and is classified as one or both of the following:

- Existing or planned publicly owned park, recreational property, or refuge
- Publicly or privately owned historic site (including both structures as well as archaeology sites) listed in or eligible for the NRHP

The Mount Vernon Memorial Highway (MVMH), George Washington Memorial Parkway (GWMP), and the Greens Scenic Area easement are categorized as both parklands and nationally significant historic resources listed in the NRHP.

Figure 4-1 shows the location of each identified property in the study area and the subsections that follow describe each property. The use determinations for each property are described in **Section 5**.

Table 4-1: Potential Section 4(f) Resources Not Used by the Preferred Alternative

Resource Name	Classification	Reason for Exclusion
Four Mile Run Trail	Existing public trail	No direct use, properties are outside the project limits of disturbance; No constructive use of properties; project noise, vibration, and visual effects would not impair the activities, features or attributes of these properties.
Custis Park	Existing public park	
Howell Park	Planned public park	
Swann Park	Planned public park	
Abingdon Apartments	Potential Historic Architectural Resource	No direct use, anticipated construction activities in its vicinity are limited to the use of existing public surface road. No constructive use of properties; project noise, vibration, and visual effects would not impair the activities, features or attributes of these properties.
Chesapeake and Ohio/Alexandria Canal (44AX0028)	Potential Archaeological Resource	No direct use, anticipated construction activities in its vicinity are limited to the use of existing public surface road. No constructive use of properties; project noise, vibration, and visual effects would not impair the activities, features or attributes of these properties.
Potomac Yard Park (South)	Existing public park	Park dedication includes language in the deed which stipulates transportation uses; the parks, therefore, are not resources protected by Section 4(f).
Potomac Yard Park (North)	Planning public park	

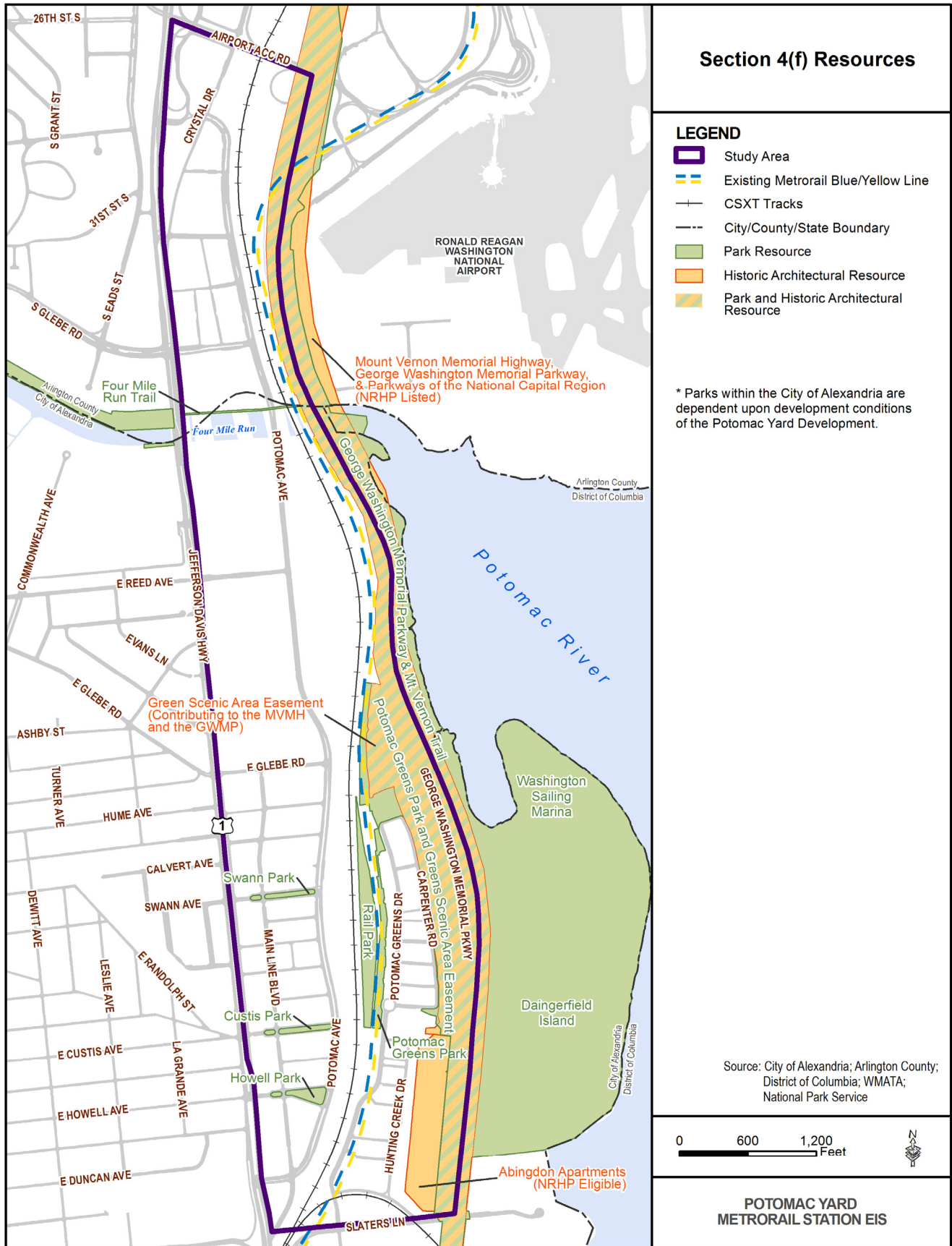
Table 4-2: Study Area Section 4(f) Resources

Resource Name	Official with Jurisdiction	Total Area (acres)	Features/Attributes of the Section 4(f) Resource	Use Determination
Mount Vernon Memorial Highway (MVMH)	NPS/SHPO	515	Park features include multi-use trails/ NRHP Listing #81000079	Permanent Use, Not <i>De minimis</i> impact
George Washington Memorial Parkway (GWMP)	NPS/SHPO	7,146 NRHP; 7,600 Park	Park features include multi-use trails, marina/ NRHP Listing #95000605	Permanent Use, Not <i>De minimis</i> impact
Parkways of the National Capital Region, 1913-1965 (PNCR)	NPS/SHPO	8,761	Historic Architectural Resource; NRHP Listing #64500086	Permanent Use, Not <i>De minimis</i> impact
Potomac Greens Park	City of Alexandria	20.54	Multi-use trails, playground, seating areas	Permanent Use, Not <i>De minimis</i> impact
Greens Scenic Area Easement	NPS/SHPO ⁽¹⁾	15.27	Multi-use trails; eligible for listing in the NRHP as a contributing resource to the MVMH/GWMP ⁽²⁾	Permanent Use, Not <i>De minimis</i> impact
Rail Park	City of Alexandria	4.21	Planned public park expected to be open after the project's opening year (2020), facilities could include trails, open space, and dog area	Temporary Occupancy, No Use

⁽¹⁾ The Greens Scenic Area easement is administered by NPS and located on land owned by the City of Alexandria.

⁽²⁾ The Greens Scenic Area easement was determined eligible for listing in the NRHP as a contributing resource to the MVMH and GWMP by the Keeper of the National Register on March 17, 2015.

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4.1 Parkland Resources

4.1.1 Mount Vernon Memorial Highway

The MVMH is administered by the National Park Service (NPS) and categorized as both a park and a historic site. Therefore, this section describes the attributes and features of the MVMH that qualify it for protection as both a public park and a historic resource. For a detailed description of the MVMH as both a historic site and a park, refer to Sections 3.9 and 3.10, respectively, of the Final EIS.

The MVMH is in the NRHP and is significant as the property is associated with the lives of persons significant in our past and is a property that embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction (NRHP Criteria B and C). The listing for the MVMH is documented in NRHP #81000079. The land designated under the MVMH NRHP listing is also designated under a separate NRHP listing for the GWMP. The GWMP is described below in **Section 4.1.2**.

The MVMH is nationally significant “as the first parkway constructed and maintained by the U.S. government and is the first road with a commemorative function explicit in its name and alignment.”¹ The intended purpose of the MVMH was to provide an appropriately designed commemorative pilgrimage route to Mount Vernon as a memorial to George Washington. The purpose of the MVMH as a commemorative pilgrimage route is its most significant historic characteristic. Integral to its character and significance, numerous national monuments, historic sites, parks, and other landscaped green spaces are visible along the corridor. The 15.2-mile MVMH links Mount Vernon, in Fairfax County, with the Arlington Memorial Bridge and comprises a total of 515 acres. The original segment was designed and landscaped to maximize scenic, aesthetic and commemorative qualities along its route.

The design of the MVMH was led by the landscape architects Wilbur Simonson and Gilmore Clarke. Simonson created a landscape in which motorists passed through places of distinct character. Over time more vegetation has been added, changing Simonson’s original design. The *Cultural Landscape Report Mount Vernon Memorial Highway* (1987 CLR) provides a comprehensive description of the original design principles for the construction of the MVMH. The 1987 CLR identifies several landscape elements that formed the character of the Parkway as it proceeded from the Memorial Bridge to Mount Vernon:

- **Roadway alignment:** The road’s horizontal and vertical alignment served two purposes – to follow the existing topography and to effectively control driving speeds.
- **Topography:** Careful grading was used to ensure natural transitions between the road and existing topography.
- **Plantings:** The planting plans were developed to fit with the existing tree plantings and wetlands in natural arrangements, while achieving different functional requirements, such as the screening of objectionable views (including the rail yard).
- **Viewsheds (“vistas”):** Through selective cutting, existing vegetation was cleared to expose long framed views across the Potomac towards the monumental core of Washington, DC. Other ways viewsheds were protected along the MVMH included the prohibition of signs and billboards and through the execution of an MOA between the City of Alexandria and United States, which restricted the use and appearance of buildings in Old Town Alexandria.
- **Bridges:** The most visible structures along the MVMH were the original eight stone bridges constructed. The original stone bridge over Four Mile Run was demolished and rebuilt in 1939. The second bridge over Four Mile Run was demolished and rebuilt in 1977.
- **Other:** Other facilities constructed along the MVMH included concession buildings, bus shelters and lighting.

The “Daingerfield Island section” of the MVMH (where the project is located) is a low lying segment of the historic MVMH adjacent to the (former) rail yards at Potomac Yard on the west side (in operation during the twentieth century) and Daingerfield on the east. Potomac Yard was one of the largest rail yards in operation in the eastern United States during this time period and was owned and managed by the Richmond, Fredericksburg and Potomac Railroad (RF&P).

¹ National Park Service. May 1981. *National Register of Historic Places Nomination Form, Mount Vernon Memorial Highway*.

The topography on either side of the highway at Daingerfield Island is lower than the road itself, and the overall wet conditions drive the selection of plant species in this area. Plants chosen are adaptable to flooding and sustained wet conditions. On the west side, a group of amur cork trees (*Phellodendron amurense*) with Sargent's crabapples (*Malus sargentii*) were planted in the foreground to mark the change from mesic to wet soils and also makes a transition from the Alexandria approach.

Simonson proposed a different planting scheme for the east and west sides of the MVMH. On the west side plantings were also intended to create a thick vegetative screen of the swamp and rail yard, while on the east side the vegetation was used to frame the views of the significant monuments and buildings in Washington, DC across the Potomac River.

Simonson planned four large groupings of about fifteen oaks and elms on the west side of MVMH in the Daingerfield Island section. Simonson spaced the groupings widely apart, from two to four hundred feet, sometimes in combination with eleagnos willow (*Salix incana*). In one example, twelve American elms (*Ulmus americana*), four water oaks (*Quercus nigra*) and five red maples (*Acer rubrum*) anchor nearly three hundred feet of roadside. Medium size trees and a mass of large shrubs are planted between the large trees, leaving few glimpses into the swamp. Ornamental trees, such as white fringetree (*Chionanthus virginicus*), are kept in groups in the foreground where they are closer to motorists, but they are easily outnumbered by the shade and medium size trees.

The thick vegetative screen Simonson intended on the west side of the MVMH has been subject to considerable changes over the years. The loss of trees has compromised the integrity of the vegetative screen meant for the rail yard.

The original viewsheds identified by Simonson in 1932 (east towards Washington, DC) were significantly impacted by the construction of Reagan National Airport. Construction of the airport also shifted the original alignment of the MVMH west from the Potomac River in the 1940s. Simonson identified one viewshed on the MVMH facing west towards the George Washington Masonic National Memorial in Alexandria in the 1932 plan.

Section 4(f) use of the MVMH as defined by 23 CFR 774.17 is described in **Section 5.2**.

4.1.2 George Washington Memorial Parkway

The GWMP is administered by NPS and categorized as both a park and a historic site for this project and is listed in the NRHP. Therefore, this section describes the attributes and features of the GWMP that qualify it for protection as both a public park and a historic resource. For a detailed description of the GWMP as both a historic site and a park, refer to Sections 3.9 and 3.10, respectively, of the Final EIS.

The GWMP is a linear park and historic district along the Potomac River, whose primary feature is a memorial parkway that connects historic sites from the Mount Vernon Estate to Great Falls, Virginia. The MVMH (described above in **Section 4.1.1**) was incorporated as a component of the larger GWMP, as directed by the Capper-Cramton Act of 1930, and over the subsequent 30 years the parkway was extended north through Arlington County and Fairfax County to its present terminus at I-495 near McLean, Virginia. The Capper-Cramton Act, Public No. 284, 71st Congress, 46 Stat. 482, approved May 29, 1930, appropriated Federal funds to the National Capital Park and Planning Commission for the expeditious, economical and efficient development and completion, among other projects, the GWMP to include the shores of the Potomac, and adjacent lands, from Mount Vernon to a point above Great Falls, VA. The lands acquired as part of the MVMH were to be managed as part of the memorial parkway under the authority conferred by the Act approved February 26, 1925.

The GWMP comprises a total of 7,146 acres under its designation as an historic site and 7,600 acres under its designation as a park resource. The GWMP extends 38.3 miles on both sides of the Potomac River in Virginia and Maryland. In continuation of the intent of the MVMH, the purpose of the GWMP is to commemorate the first president, preserve the natural setting of the shoreline of the Potomac River and provide a high-quality entryway to Washington, DC. Construction of the remainder of the GWMP (beyond the MVMH) continued after 1932 through 1965.

The GWMP was designed for recreational driving and links sites that commemorate important episodes in American history and preserve habitat for local wildlife. An important characteristic of the parkway experience is the scenic quality and contemplative experience for travelers. Although the GWMP was designed as a carefully planned scenic route to the nation's capital, the GWMP includes recreational features that allow for pedestrians and bicycles along the Mount Vernon Trail, canoeing or kayaking along the Potomac River, hiking, picnicking,

and wildlife viewing. The Parkway is of a high recreational value because it provides trail connections and numerous recreational facilities, including the Mount Vernon Trail as well as Daingerfield Island, and Washington Sailing Marina (both of which are east of the Parkway and outside of the study area). The GWMP and associated trails provide a scenic place to play and rest within the Washington DC metropolitan area. Note, the recreational features of the GWMP near the project (Mount Vernon Trail, Daingerfield Island, and the Washington Sailing Marina) are not attributes of the historic significance of the GWMP.

The listing for the GWMP, which is documented in NRHP #95000605, includes all Capper-Cramton Act acquired property, MVMH and adjacent lands, the extent of the GWMP north of Memorial Bridge to its terminus at Great Falls, Virginia, and the Clara Barton Parkway (a separate parkway administered by the GWMP park unit) in Montgomery County, Maryland. The GWMP is listed in the NRHP and is significant, as the property is associated with the lives of persons significant in our past and is a property that embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction (NRHP Criteria B and C).

As described in the NRHP nomination, the landscape values for the GWMP have been to preserve the scenic and aesthetic qualities associated with the Potomac River valley, which extends from the Coastal Plain past the fall line to the Piedmont. The McMillan Commission was concerned with the preservation of its landscape, including the palisades and the tree covered slopes, flowering understory, steep-sided creek valleys (runs), and hilltop vistas. The hilltop vistas provide views of the monumental core of Washington, D.C., a central purpose for the establishment and continuing protection of the GWMP. Eliot described the GWMP concisely as containing "grade separations, few entrances, border roads for service of abutting property, and a right-of-way never less and often much more than two hundred feet."

Planting plans exist for the MVMH portion, the interchanges from Route 123 to Turkey Run, and the area near the David Taylor Naval Ship Research and Development Center of the Clara Barton Parkway, and in the portion in proximity to the Central Intelligence Agency. The 2009 *Cultural Landscape Report* (CLR) states that two additional plantings of trees were added to the Daingerfield Island section in 1936 soon after Simonson's plantings were installed. The first planting consisted of over one thousand pines planted adjacent to the western side of the GWMP, further screening it from the railroad activity at Potomac Yard. The plan used four species of pines, the first major planting of evergreens along the central section of the Parkway. Red pine (*Pinus resinosa*) dominates, along with Scots pine (*P. sylvestris*), white pine (*P. strobus*) and Virginia pine (*P. virginiana*). They are planted in large groupings along the entire western side of this stretch.

The second set of plantings added about 250 deciduous trees and 400 more pines to the previous plantings to further increase the buffer. The species mixture is similar to Simonson's—maples, elms, oaks, and sycamores—but it also includes more white pine (*P. strobus*). Most of these trees are planted in groups of a single species. The CLR states that these were the last plantings along the western edge of Daingerfield Island.

Per the CLR, the plantings that remain today are a mixture of 1932 and 1936 plants. Currently, the portion of the western side of the GWMP within the project's Area of Potential Effect (APE) has scarce remnants of the 1932 and 1936 plantings. The majority of the 1930's-era trees though have succumbed to mortality due to a variety of factors, such as mature age or the high surface water due to a former beaver dam in the area which has since been removed. Very few of the pine trees remain along this stretch of the GWMP.

Other species from later planting plans are still found among the vegetation along the western side of the GWMP. The plantings that are currently present have returned to a more natural state through ecological succession. Species present include mulberry (*Morus alba*), sycamore (*Platanus spp.*), privet (*Ligustrum spp.*), multiflora rose (*Rosa multiflora*), Japanese honeysuckle (*Lonicera japonica*), bush honeysuckle (*Lonicera spp.*), sumac (*Rhus spp.*), porcelainberry (*Ampelopsis brevipedunculata*), and trumpet creeper (*Campsis radicans*). A variety of volunteer herbaceous and woody plants have also naturally established.

All GWMP administered land within the project's APE, including lands that extend beyond the historic roadway right-of-way, is a NRHP-listed historic architectural resource.

Commercial vehicles are prohibited from the GWMP under *NPS Management Policies 2006* (9.2.1.2.1) and Federal regulations (36 CFR 5.6). The NPS policies state that "commercial traffic will be prohibited on roads within parks, except for the purpose of serving park visitors and park operations (9.2.1.2.1)." If access to private lands is otherwise not available, the park Superintendent has the discretion to issue permits for commercial vehicles.

318 Section 4(f) use of the GWMP as defined by 23 CFR 774.17 is described in **Section 5.1**.

319 4.1.3 Potomac Greens Park

320 Potomac Greens Park, which is owned by the City of Alexandria, is an existing 20.54-acre park located around
321 the north end of the Potomac Greens neighborhood. Amenities in the park include a playground, seating area,
322 and a wooded area with trails. The playground and park shelter are located on Carpenter Road.

323 Within the boundaries of Potomac Greens Park, NPS maintains a 15.27-acre scenic easement known as the
324 “Greens Scenic Area.” The Greens Scenic Area easement was determined eligible for listing in the NRHP as a
325 contributing resource to the MVMH and GWMP by the Keeper of the National Register. The Greens Scenic Area
326 easement is described further in **Section 4.1.4**.

327 Section 4(f) use of Potomac Greens Park as defined by 23 CFR 774.17 is described below in **Section 5.4**.

328 4.1.4 Greens Scenic Area Easement

329 Within the boundaries of Potomac Greens Park, NPS maintains a 15.27-acre scenic easement known as the
330 “Greens Scenic Area.” The Greens Scenic Area easement is administered by NPS and categorized as both a
331 park and a historic site. Therefore, this section describes the attributes and features of the Greens Scenic Area
332 easement that qualify it for protection as both a public park and a historic resource. For a detailed description of
333 the Greens Scenic Area easement as both a historic site and a park, refer to Sections 3.9 and 3.10,
334 respectively, of the Final EIS.

335 In 2000, as part of an agreement to allow redevelopment of the Arlington County portion of Potomac Yard, the
336 owner of the property (Commonwealth Atlantic Properties at the time) and the United States of America signed
337 the *Release Agreement and Scenic Easement*. The agreement granted the Greens Scenic Area easement to
338 the United States Department of the Interior, including much of the land to the north and east of Potomac
339 Greens neighborhood and east of the CSXT tracks within the City of Alexandria. The deed of the Greens Scenic
340 Area easement states the easement is “*for the purposes of conserving and preserving the natural vegetation,*
341 *topography, habitat and other natural features now existing.*” The scenic easement is intended to provide a
342 buffer between the GWMP and the development in Potomac Yard. The easement is located north of the
343 Potomac Greens neighborhood, on land now owned by the City of Alexandria. The scenic easement stipulates
344 that no improvements shall be constructed or installed within the Greens Scenic Area, and prohibits clearing,
345 grading, or tree removal, except for uses such as light passive recreation and underground utilities, and that the
346 Greens Scenic Area shall not otherwise be disturbed without prior written approval of the United States.

347 In 2004, during development of the Potomac Greens neighborhood, the underlying fee simple property interest
348 was dedicated to the City of Alexandria for Potomac Greens Park. The transfer did not affect the terms of the
349 Greens Scenic Area perpetual easement, which is currently located on portions of the City public park. A small
350 portion at the southern end of the Greens Scenic Area easement (0.19 acre) is on property owned by the
351 Potomac Greens Homeowners Association. The one amenity of Potomac Greens Park that is found within the
352 Greens Scenic Area easement is a trail.

353 While historically not a part of the MVMH or GWMP, the Greens Scenic Area easement was determined eligible
354 for listing in the NRHP as a contributing resource on March 17, 2015 by the Keeper of the National Register,
355 due to its historic scenic qualities that contribute to the original design of the roadway and its landscape.

356 Section 4(f) use of the Greens Scenic Area easement as defined by 23 CFR 774.17 is described in **Section 5.5**.

357 4.1.5 Rail Park (Planned)

358 Rail Park is a 4.21-acre planned park on property currently owned by the City of Alexandria, located between
359 the CSXT tracks and Metrorail tracks. The planned park would be accessed from Potomac Greens Drive near
360 the north end of Old Town Greens. The City of Alexandria has not yet finalized plans for the park. However, the
361 park would likely be managed as public open space and may include a dog park. An existing Metrorail service
362 drive for the existing traction power station will be maintained and used as vehicular service access to the park.
363 Rail Park is anticipated to open after 2020. Section 4(f) use of the planned Rail Park as defined by 23 CFR
364 774.17 is described in **Section 5.6**.

365 4.1.6 Four Mile Run Trail

366 The Four Mile Run Trail is an existing 7-mile paved trail located adjacent to Four Mile Run in Arlington County.
367 The trail is owned by Arlington County and maintained by Arlington County’s Department of Parks and

Recreation. The trail extends from Falls Church to the Mount Vernon Trail. Within the study area, the ¼-mile segment of Four Mile Run Trail is located along the north bank of Four Mile Run under eight bridges, which comprise the following: U.S. Route 1, a pedestrian bridge, two abandoned rail bridges, Potomac Avenue, a CSXT bridge, an existing Metrorail bridge, and the GWMP.

The Preferred Alternative would not require acquisition of land from the Four Mile Run Trail and therefore implementation of the Preferred Alternative would not constitute a Section 4(f) permanent use or temporary occupancy. The trail is not identified as a resource with sensitive noise receptors as described in Chapter 3.12 Noise & Vibration so any potential construction or operational noise or vibration associated with the Preferred Alternative would not impact users of the trail. The trail runs along urban areas that lack identified scenic resources. In addition, the Preferred Alternative would not result in a change in access to the Four Mile Run Trail. Therefore, as defined in 23 CFR 774.15, proximity impacts from construction or operation of the Preferred Alternative would not impair “the protected activities, features, or attributes that qualify the property for protection under Section 4(f)” and no constructive use of the Four Mile Run trail would occur. As such this property is not discussed further in this document.

4.1.7 Custis Park

Custis Park is an existing 0.44-acre park located in the South Potomac Yard development. The park was dedicated to the City of Alexandria in December 2013 and is one of several finger parks that serve as extensions of Potomac Yard Park (described in **Section 4.1.10** below) into the adjacent existing and planned neighborhoods to the west. Custis Park is located within the right-of-way of Custis Avenue, between Main Street and Potomac Avenue. The park consists of mostly lawn space with pedestrian paths, occasional stopping points, and park features such as benches.

The Preferred Alternative would not require acquisition of land from Custis Park and therefore implementation of the Preferred Alternative would not constitute a Section 4(f) permanent use or temporary occupancy. The park is not identified as a resource with sensitive noise receptors as described in Section 3.12, Noise and Vibration in the Final EIS, so any potential construction or operational noise or vibration associated with the Preferred Alternative would not impact users of the park. The park is in an urban area with limited scenic resources. In addition, the Preferred Alternative would not result in a change in access to Custis Park. Therefore, as defined in 23 CFR 774.15, proximity impacts from construction or operation of the Preferred Alternative would not impair “the protected activities, features, or attributes that qualify the property for protection under Section 4(f)” and no constructive use of Custis Park would occur. As such this property is not discussed further in this document.

4.1.8 Howell Park (Planned)

Howell Park is a 0.73-acre planned park that will be developed as part of the South Potomac Yard development. The park was dedicated to the City of Alexandria in 2006 and is anticipated to open in 2016. Howell Park is one of several finger parks that serve as extensions of Potomac Yard Park (described in **Section 4.1.10** below) into the adjacent existing and planned neighborhoods to the west. Howell Park is located within the right-of-way of Howell Avenue, between Main Street and Potomac Avenue. Howell Park is envisioned to be a large neighborhood park of either informal or formal design consisting of mostly lawn space with pedestrian paths and park features such as benches and shade trees.

The Preferred Alternative would not require acquisition of land from the planned park and therefore implementation of the Preferred Alternative would not constitute a Section 4(f) permanent use or temporary occupancy. The planned park would not be constructed in an area identified as a resource with sensitive noise receptors as described in Chapter 3.12 Noise & Vibration, so any potential construction or operational noise or vibration associated with the Preferred Alternative would not impact users of the park. The park would be constructed in an urban area with limited scenic resources. The park is in an urban area with limited scenic resources. In addition, the Preferred Alternative would not result in a change in access to the planned park. Therefore, as defined in 23 CFR 774.15, proximity impacts from construction or operation of the Preferred Alternative would not impair “the protected activities, features, or attributes that qualify the property for protection under Section 4(f)” and no constructive use of Howell Park would occur. As such this property is not discussed further in this document.

4.1.9 Swann Park (Planned)

Swann Park is a 0.41-acre planned park that will be developed as part of the South Potomac Yard development. The park was dedicated to the City of Alexandria in 2006 and is anticipated to open in 2016. Swann Park is one of several finger parks that will serve as extensions of Potomac Yard Park (described in **Section 4.1.10** below)

into the adjacent existing and planned neighborhoods to the west. Swann Park will be located within the right-of-way of Swann Avenue, between Main Street and Potomac Avenue. The park will consist of mostly lawn space with pedestrian paths, occasional stopping points, and park features such as benches.

The Preferred Alternative would not require acquisition of land from the planned park and therefore implementation of the Preferred Alternative would not constitute a Section 4(f) permanent use or temporary occupancy. The planned park would not be constructed in an area identified as a resource with sensitive noise receptors as described in Section 3.12, Noise and Vibration in the Final EIS, so any potential construction or operational noise or vibration associated with the Preferred Alternative would not impact users of the park. The park would be constructed in an urban area with limited scenic resources. The park is in an urban area with limited scenic resources. In addition, the Preferred Alternative would not result in a change in access to the planned park. Therefore, as defined in 23 CFR 774.15, proximity impacts from construction or operation of the Preferred Alternative would not impair “the protected activities, features, or attributes that qualify the property for protection under Section 4(f)” and no constructive use of Swann Park would occur. As such this property is not discussed further in this document.

4.1.10 Potomac Yard Park (North and South)

Potomac Yard Park is a 23.4 acre park within the Potomac Yard Development in the City of Alexandria. This linear park is located between the CSXT right-of-way and Potomac Avenue. The park is currently being constructed in phases. The first phase of the park was dedicated in December 2013. The remaining phases are expected to be dedicated in 2016. The first phases of the development of the park, referred to as Potomac Yard Park – South, have been constructed and include athletic fields, playgrounds, pathways and an interactive fountain. The planned final phases of the northern portion of the park, referred to as Potomac Yard Park – North, will include multi-use trails and a stormwater management pond.

The deed for the southern portion of Potomac Yard Park stipulates that “the property is being dedicated for open space and recreational purposes, and reserved for future transportation uses, specifically the construction, operation, and maintenance of a future Metrorail station and associated facilities, and/or pedestrian bridges and/or tunnels. Therefore, the property is not subject to 49 U.S.C. 303 (commonly referred to as “Section 4f”) as implemented through 23 CFR Part 774 and per 23 CFR 774.11(b) and 23 CFR 774.11(c). Any portions of the property not needed for transportation projects will remain as open space and recreation once the transportation projects are completed.” The planned dedication of the northern portion of Potomac Yard Park is expected to include similar language in the deed.

As defined in 23 CFR 774.11 (i) “when a property formally reserved for a future transportation facility temporarily functions for park, recreation or wildlife and waterfowl refuge purposes in the interim, the interim activity, regardless of the duration, will not subject the property to Section 4(f).” Based on the language in the deed as described above, the Potomac Yard Park (North and South) is not considered a Section 4(f) resource as defined by 23 CFR 774. As such this property is not discussed further in this document.

4.2 Historic Sites

An analysis to identify cultural resources within the project’s Area of Potential Effect (APE) was undertaken in accordance with Section 106 of the National Historic Preservation Act. APEs were developed for both historic architectural resources and archaeological resources in consultation with the Virginia Department of Historic Resources (VDHR). The APE for historic architecture is large enough to include all resources over 50 years of age with the potential to be directly or indirectly affected by the proposed project. The APE for historic architecture consists of most of the study area and extends out to the shores of the Potomac River. The APE for archaeology includes all areas of anticipated project-related ground disturbance (e.g., excavation, grading, cutting and filling, and utility installation activities as well as activities undertaken during construction that may result in unintentional soil compaction, erosion or other disturbance). **Figure 4-2** on page D-16 shows the APEs for both historic architecture and archaeology. A brief description of these historic sites within the APE is provided in Sections 4.2.1 through 4.2.5 below. Refer to Section 3.9 of the Final EIS for full description of these historic sites.

4.2.1 Historic Architectural Sites

Three significant interrelated historic properties listed in the NRHP are located within the APE for historic architectural resources: the MVMH (NRHP #81000079), the GWMP (NRHP #95000605), and the Parkways of the National Capital Region, 1913-1965 (PNCR) (NRHP# 64500086). All MVMH and GWMP park property

within the study area is NRHP-listed as an historic architectural resource and is characterized as both publicly owned parks and historic sites as described above. See **Sections 4.1.1** and **4.1.2** for information regarding the MVMH and GWMP. See **Section 4.2.2** below for information regarding the PNCR.

Two properties eligible for listing in the NRHP are also located within the APE for historic architectural resources. The Greens Scenic Area easement was determined eligible for listing in the NRHP as a contributing resource to the MVMH and the GWMP. This resource is also characterized as both a publicly owned park and historic site. See **Section 4.1.4** for information regarding the Greens Scenic Area. The Abingdon Apartments (described below) was identified as potentially eligible for listing in the NRHP during the Section 106 process (see **Section 4.2.3**). **Figure 4-1** illustrates the historic architectural resources identified within the APE during the Section 106 process.

4.2.2 Parkways of the National Capital Region, 1913-1965

The Parkway of the National Capital Region, 1913–1965 multiple properties submission (MPS) comprises approximately 75-100 miles of parkways in the District of Columbia; Montgomery, Prince George's, and Anne Arundel Counties in suburban Maryland; and Arlington and Fairfax Counties, along with the City of Alexandria, in northern Virginia. The listing for the PNCR is documented in NRHP #64500086. According to the NRHP nomination:

The various parkways of the national capital reflect the culmination of several national trends after the turn of the century: the City Beautiful movements' emphasis on integrated urban green space; automobility and the rapid development of the road systems; and the decline in the quality of city living and resulting popularity of outdoor recreation... Aesthetically unaltered, the parkways remain vital components of the regional transportation arteries and they continue to contribute to the historic symbolism and design of the nation's capital.

The boundaries of the contributing arterial thoroughfares are coterminous with their rights-of-way, and in the APE include the MVMH and GWMP. The period of significance is 1913–1965.

Section 4(f) use of the PNCR as defined by 23 CFR 774.17 is described in **Section 5.3**.

4.2.3 Abingdon Apartments

In addition to the three NRHP-listed properties and the Greens Scenic Area easement, one additional historic architectural resource over 50 years of age, the Abingdon Apartments (currently named Potowmack Crossing at Old Town Condominiums), was identified as potentially eligible for listing in the NRHP during the Section 106 process. The Abingdon Apartments are located in the City of Alexandria on West Abingdon Drive near the intersection of Slaters Lane and the GWMP. The complex was evaluated and not recommended as individually eligible for listing in the NRHP. However, this apartment complex is a contributing resource to a recommended NRHP eligible multiple property submission for post-World War II Colonial Revival apartment complexes along the GWMP in Alexandria called the Colonial Revival Apartment Complexes of Alexandria (CRACA). FTA and VDHR agreed to treat the Abingdon Apartments as NRHP eligible for the purposes of the Section 106 process for this project.

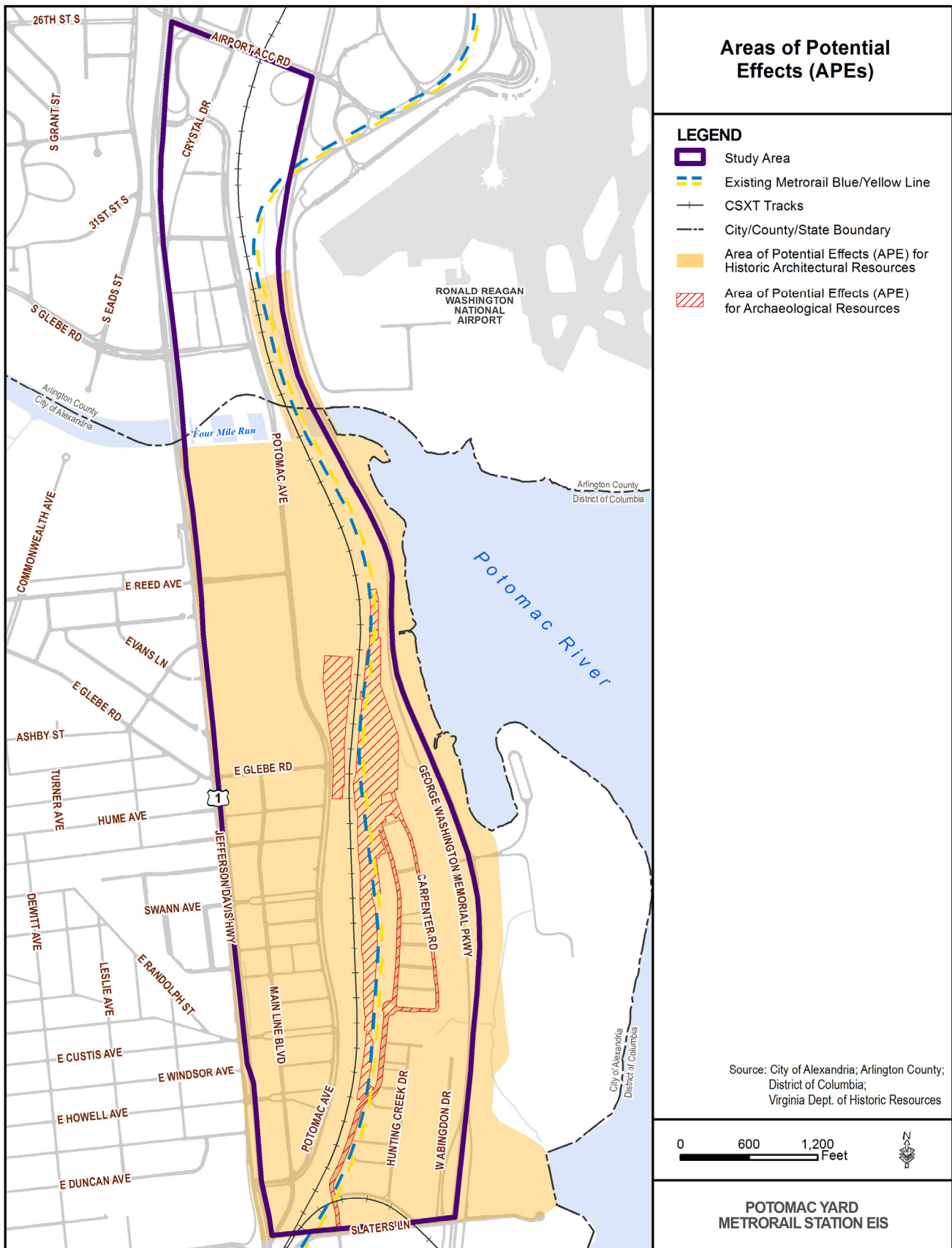
The Preferred Alternative would not result in the permanent use nor would it temporarily occupy the Abingdon Apartments. In addition, the construction of the Preferred Alternative would have no adverse effect on Abingdon Apartments under Section 106 because of the distance of the property from the proposed project activities and the visual buffer created by the Potomac Greens neighborhood. Therefore, as defined in 23 CFR 774.15, proximity impacts from construction or operation of the Preferred Alternative would not impair "the protected activities, features, or attributes that qualify the property for protection under Section 4(f)" and no constructive use of the Abingdon Apartments would occur. As such this property is not discussed further in the document.

4.2.4 Archaeological Sites

One archaeological resource has been documented within the APE that is potentially eligible for inclusion in the NRHP: the Alexandria Canal portion of the Chesapeake and Ohio/Alexandria Canal (44AX0028). This resource has not been evaluated for NRHP eligibility; however, for purposes of the Section 4(f) evaluation, the Chesapeake and Ohio/Alexandria Canal was considered NRHP-eligible. Other archaeological sites were identified in the vicinity of but outside the project APE and were therefore not considered as part of the Section 4(f) evaluation.

4.2.5 Chesapeake and Ohio/Alexandria Canal (44AX0028)

The Chesapeake and Ohio/Alexandria Canal was established by Congressional charter and operated between 1843 and 1886, carrying freight between Georgetown and Alexandria. The canal carried coal from western Maryland to Alexandria, as well as grain, flour, and whiskey, and returned materials needed on the western frontier through Georgetown, including fish, salt, and plaster. The Preferred Alternative would not result in the permanent use nor would it temporarily occupy the Chesapeake and Ohio/Alexandria Canal. As such this property is not discussed further in the document.

532 **Figure 4-2: Areas of Potential Effects (APEs)**

533

5.0 SECTION 4(F) USE ASSESSMENT

This section describes the Section 4(f) resources identified in **Section 4.0** that have the potential to result in an actual Section 4(f) use under the Preferred Alternative.

Permanent uses as a result of the project relate to the partial land acquisition needed to accommodate permanent station facilities or right-of-way for realigned track. Because the Preferred Alternative requires a land exchange with NPS or impacts an easement administered by NPS, the transfer would be subject to an equal value exchange of lands or interests in land under 54 U.S.C. 102901. Temporary uses would occur during construction of the project to accommodate staging and material lay down areas, which would require a permit from NPS, and result in long-term adverse physical impacts related to vegetation removal. A temporary occupancy of property does not constitute a use of a Section 4(f) resource when all of the conditions set forth in 23 CFR 774.13(d) are satisfied, as described in **Section 2.1**.

Table 5-1 summarizes the permanent use, temporary use, and temporary occupancy of existing and planned publicly owned parks as a result of the Preferred Alternative. **Figure 5-1** shows the uses and temporary occupancies of Section 4(f) parks and the Greens Scenic Area easement for the Preferred Alternative. Permanent use of Section 4(f) parks was determined based on property acquisition needs assuming a minimum 20-foot setback from proposed permanent facilities and structures.

Table 5-2 summarizes the permanent use, temporary use, and temporary occupancy of historic architectural resources. Based on the analysis conducted for cultural resources, the Preferred Alternative would result in direct adverse effects to the GWMP, MVMH, and PNCR under Section 106. **Figure 5-2** shows the uses and temporary occupancies to historic sites for the Preferred Alternative. The discussion of the GWMP, MVMH, and the Greens Scenic Area easement in this section reflects their categorization as both parks and historic sites.

555 **Table 5-1: Preferred Alternative Uses and Temporary Occupancies of Section 4(f) Parklands**

Resource	Official with Jurisdiction	Total Area of Park (acres)	Use				Temporary Occupancy		Constructive Use	Use Determination
			Permanent (acres)	Temporary (acres)	Total (acres)	Percentage of Use to Total Area of Park	Temporary Occupancy; No Use (acres)	Percentage of Temporary Occupancy to Total Area of Park		
George Washington Memorial Parkway	NPS/SHPO	7,600 ⁽¹⁾	0.16 – 0.33	0.25 – 0.42	0.41 – 0.75	<0.01 – 0.01%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact
Mount Vernon Memorial Highway	NPS/SHPO	515	0.16 – 0.33	0.25 – 0.42	0.41 – 0.75	0.08 – 0.1%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact
Potomac Greens Park	City of Alexandria	20.54	2.54 – 2.76	4.10 – 4.33	6.64 – 7.09	32.3 – 34.5%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact
Greens Scenic Area Easement	NPS/SHPO	15.27	1.71 – 1.94 ⁽²⁾	2.86 – 3.09	4.57 – 5.03	29.9 – 32.9%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact
Rail Park (Planned)	City of Alexandria	4.21	0.00	0.00	0.00	0.0%	4.21	100%	No	No Use

556 ⁽¹⁾ Total acreage of the George Washington Memorial Parkway national parkland as reported by NPS.

557 ⁽²⁾ Area of 4(f) permanent use to the Greens Scenic Area easement is within the area of 4(f) permanent use listed for Potomac Greens Park.

558 Note: A range of impacts is presented as these may vary based on the final design.

559

560 Table 5-2: Preferred Alternative Uses and Temporary Occupancies of Section 4(f) Historic Architectural Resources

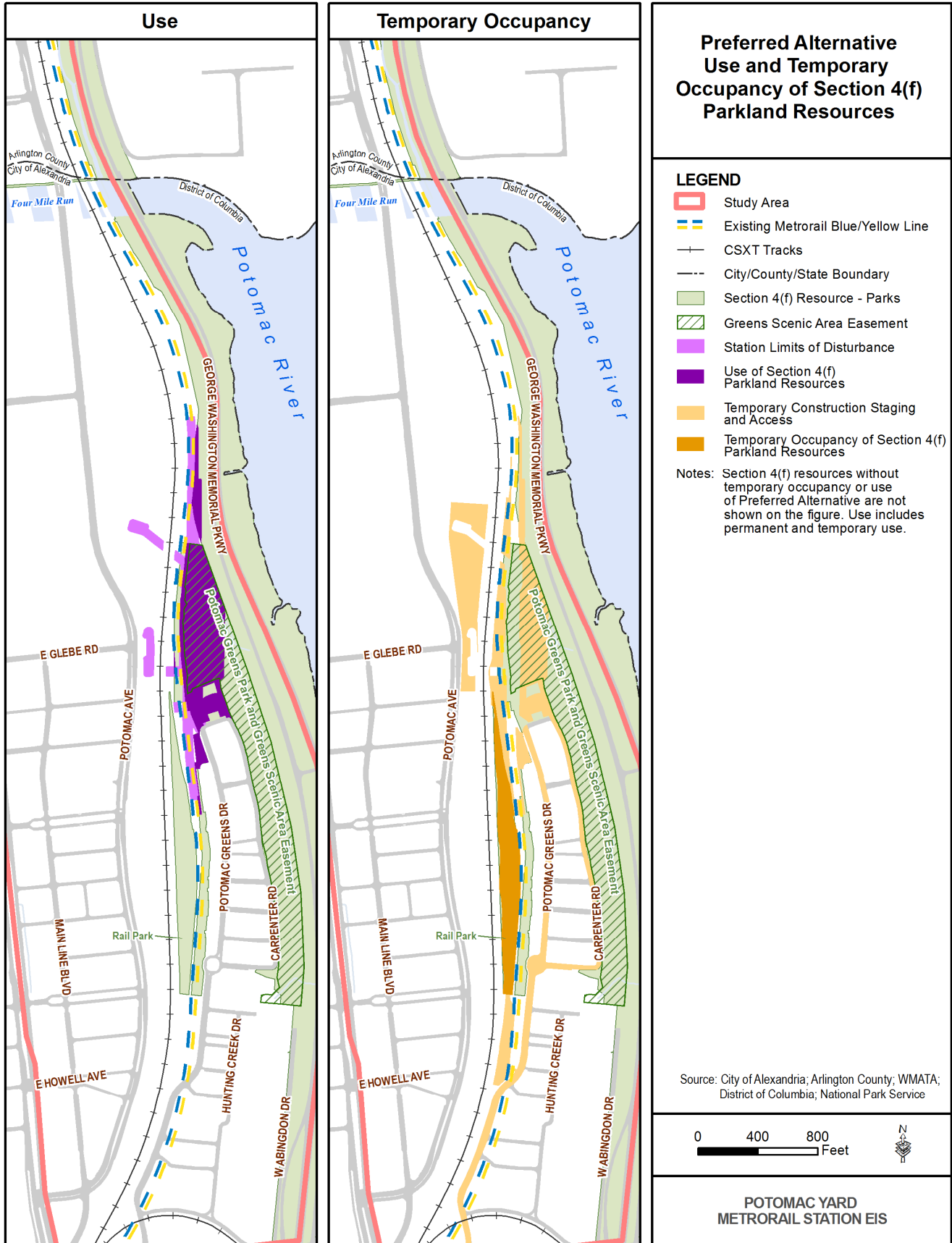
Resource	Official with Jurisdiction	Total Area of Park (acres)	Use				Temporary Occupancy		Constructive Use	Use Determination
			Permanent (acres)	Temporary (acres)	Total (acres)	Percentage of Use to Total Area Affected	Temporary Occupancy; No Use (acres)	Percentage of Temporary Occupancy to Total Area Affected		
George Washington Memorial Parkway	NPS/SHPO	7,146 ⁽¹⁾	0.16 – 0.33	0.25 to 0.42	0.41 – 0.75	<0.01 – 0.01%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact
Mount Vernon Memorial Highway	NPS/SHPO	515	0.16 – 0.33	0.25 to 0.42	0.41 – 0.75	0.08 – 0.1%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact
Parkways of the National Capital Region	NPS/SHPO	8,761	0.16 – 0.33	0.25 to 0.42	0.41 – 0.75	<0.01%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact
Greens Scenic Area Easement	NPS/SHPO	15.27	1.71 – 1.94 ⁽²⁾	2.86 to 3.09	4.57 – 5.03	29.9 – 32.9%	0.00	0.0%	No	Use, Not <i>De minimis</i> impact

561 ⁽¹⁾ Total acreage of the George Washington Memorial Parkway historic property as listed in the National Register.562 ⁽²⁾ Area of 4(f) permanent use to the Greens Scenic Area easement is within the area of 4(f) permanent use listed for Potomac Greens Park.

563 Note: A range of impacts is presented as these may vary based on the final design

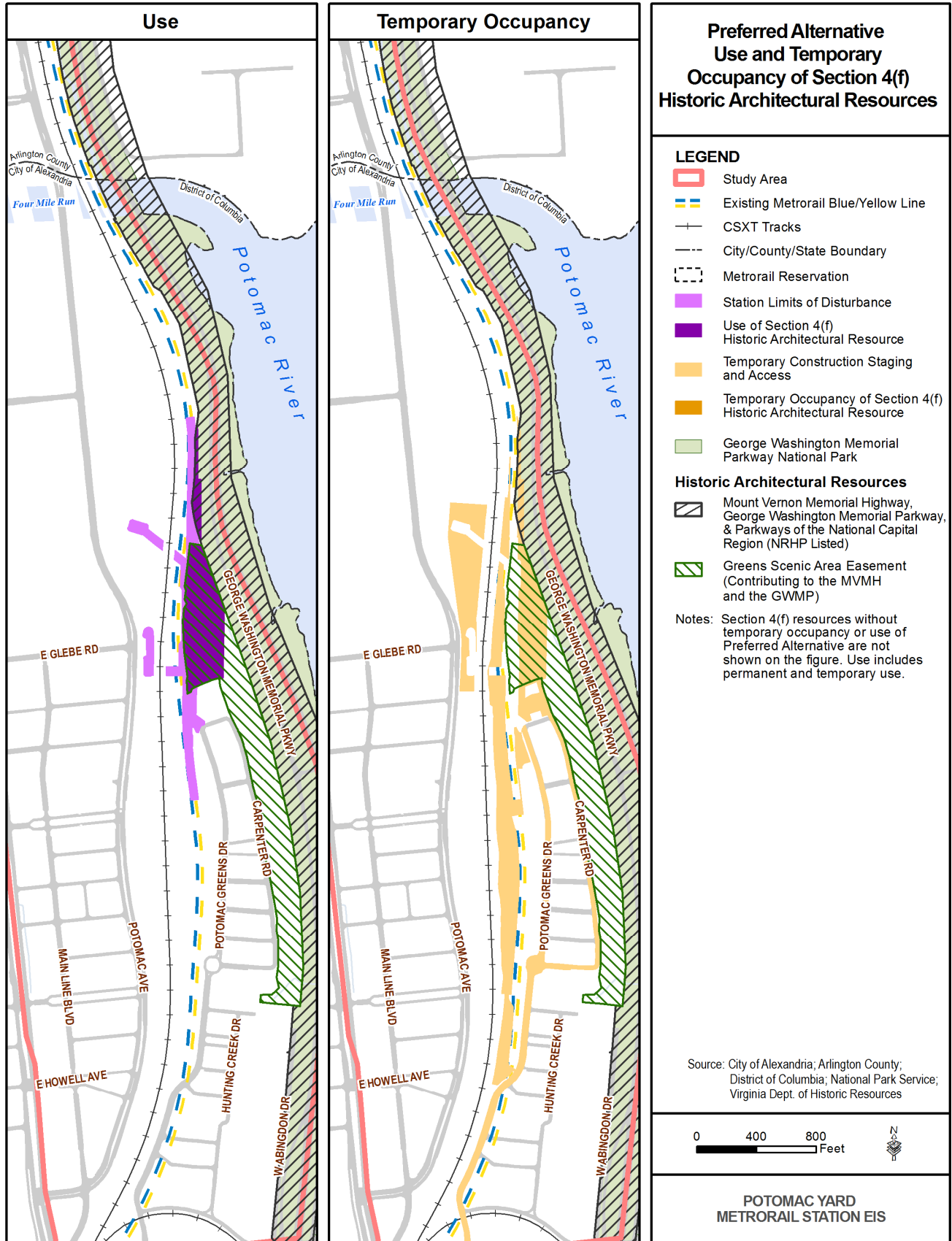
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Figure 5-1: Use and Temporary Occupancy of Section 4(f) Resources - Parks and Easement



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566

Figure 5-2: Use and Temporary Occupancy of Section 4(f) Resources - Historic Architectural Resources

567

Of the parkland resources identified in **Section 4.1**, the Preferred Alternative would not require the permanent or temporary incorporation of land from Four Mile Run Trail, Curtis Park, or the planned Howell Park and Swann Park, nor would the Preferred Alternative result in proximity impacts that would be so severe that the protected activities, features, or attributes that qualify these properties for protection under Section 4(f) would be substantially impaired. Additionally, Potomac Yard Park (North and South) is not considered a Section 4(f) resource as defined by 23 CFR Part 774 because language in the deed stipulates transportation uses within the park. Therefore, as discussed in **Section 4.1** and shown in **Table 4-1**, no Section 4(f) use of these parkland resources would occur and they are not discussed further.

The Preferred Alternative would not require the permanent or temporary incorporation of land from the Abingdon Apartments, which were identified as eligible for listing in the NRHP. In addition, as determined through the Section 106 process, the Preferred Alternative would not result in an adverse effect to the Abingdon Apartments or the documented archaeological resource (Chesapeake and Ohio/Alexandria Canal). Therefore, as discussed in **Section 4.1** and shown in **Table 4-1**, no Section 4(f) use of these historic resources would occur and they are not discussed further.

5.1 George Washington Memorial Parkway

The Preferred Alternative would require the total use of 0.41 to 0.75 acre of the GWMP related to a land transfer along the western boundary of the park that would be permanently used for realigned track (approximately 0.16 to 0.33 acre) and a permit from NPS for temporary use of the GWMP necessary for construction staging areas (approximately 0.25 to 0.42 acre). The land transfer would result in the removal of existing vegetation that currently provides a visual barrier between the GWMP and Potomac Yard. Construction staging and material laydown areas would require a permit from NPS for the clearing of vegetation and disturbance of soils in the areas designated for these activities for the Preferred Alternative. The Preferred Alternative would not provide access for construction vehicles from the Parkway to the proposed station location and construction staging areas.

Users of the GWMP roadway and the Mount Vernon Trail (both of which are features of the GWMP) would experience temporary visual and noise effects throughout the three-year project construction duration related to vegetation clearance and construction equipment in staging areas on GWMP property and adjacent areas near the station and realigned track. Recreational features of the GWMP, including the Mount Vernon Trail and Daingerfield Island marina and recreational fields, would remain open for public use, and the roadway would remain open to general vehicular traffic in both directions of travel during the duration of construction. Access to recreational facilities within the GWMP would not be restricted during construction nor would project construction affect use of these recreational facilities. Note, the recreational features of the GWMP near the project (Mount Vernon Trail, Daingerfield Island, and the Washington Sailing Marina) are not attributes of the historic significance of the GWMP.

The Preferred Alternative would result in permanent acquisition of NPS land requiring a land transfer, temporary construction activities within GWMP property requiring a permit from NPS, and temporary and permanent visual effects. Construction access would also have effects on the GWMP resulting from long-term loss of vegetation in areas that were part of the original landscape design. These would result in some diminishment of the landscape architecture area of significance of the GWMP, including landscaping to preserve the scenic and aesthetic qualities associated with the Potomac River valley.

Refinements were made to the preliminary construction staging area and access routes presented in the Draft EIS for the Preferred Alternative (Build Alternative B Option 2 Construction Access). The refinements incorporate more detailed development of construction phasing plans and efforts to reduce impacts to resources identified in the Draft EIS. To reduce impacts to the GWMP, the extent of the Preferred Alternative construction staging area on the GWMP property was removed except where required for direct access to build the realigned track at the northern end of the project site. Use of GWMP property for construction staging was reduced from approximately 0.55 acre to between 0.25 and 0.42 acre.

Construction staging areas on GWMP property would require clearance of 0.25 to 0.42 acre of vegetation and forested wetlands, which would remove roughly 10 to 15 trees over two inches DBH. Permanent station facilities and realigned track would require clearance of 0.16 to 0.33 acre of vegetation and forested wetlands, which would remove roughly five to ten trees over two inches DBH. The total area cleared of vegetation in areas planted as part of the original landscape design of the GWMP for construction staging and permanent facilities for the Preferred Alternative would be 0.58 acre including the removal of a total of 10 to 15 trees over two inches DBH.

The proposed activities associated with construction of the temporary access driveways and staging areas and permanent station and track facilities would include removing contributing features (trees) of NRHP-listed resources. NPS parklands used for construction activities would be restored based on an NPS-approved planting plan. Vegetative screening in areas temporarily cleared for construction would require approximately 20-40 years of regrowth to be re-established similar to its current state. Restoration of the GWMP temporarily impacted areas would be a condition of any permit issued by NPS.

In addition to the vegetation and resulting visual impacts described above related to the cultural landscape within the GWMP, 1.51 acres of trees and shrubs would be removed from the Greens Scenic Area easement (described in **Section 5.5**) consisting of 0.73 to 0.83 acre for the temporary construction staging area and 0.68 to 0.78 acre for the permanent station and track facilities. This removal of trees and shrubs would cause visual effects to the GWMP as a result.

The Preferred Alternative would cause an adverse effect under Section 106 to the GWMP due to permanent land transfers, temporary construction access and staging areas, temporary and permanent visual effects, and temporary and permanent loss of vegetation and plantings. In addition, as described above, the requirement of a land transfer and a permit for temporary use during construction and the related removal of vegetation would result in long-term adverse physical impacts to the attributes and features of the GWMP that qualify it for protection under Section 4(f). While temporary use of the GWMP necessary for construction staging areas would not result in a land transfer, the use would not satisfy all of the conditions for temporary occupancy listed in 23 CFR 774.13(d) and described in **Section 2.1.2**. Therefore the Preferred Alternative would result in a Section 4(f) use of the GWMP.

5.2 Mount Vernon Memorial Highway

The Preferred Alternative would require the total use of 0.41 to 0.75 acre of the MVMH (same as the GWMP) related to a land transfer along the western boundary of the park that would be permanently used for realigned track (approximately 0.16 to 0.33 acre) and a permit from NPS for temporary use of the MVMH necessary for construction staging areas (approximately 0.25 to 0.42 acre). The land transfer would impact existing vegetation that currently provides a visual barrier between the GWMP and Potomac Yard. Construction staging and material laydown areas would require a permit from NPS for the clearing of vegetation and disturbance of soils in the areas designated for these activities for the Preferred Alternative. The Preferred Alternative would not provide access for construction vehicles from the Parkway to the station location and construction staging areas.

Users of the MVMH roadway and the Mount Vernon Trail would experience temporary visual and noise effects throughout the three-year project construction duration related to vegetation clearance and construction equipment in staging areas on GWMP property and adjacent areas near the station and realigned track.

The Preferred Alternative would result in permanent acquisition of NPS land requiring a land transfer, temporary construction activities within MVMH property requiring a permit from NPS, and temporary and permanent visual effects. Construction access would also have effects on the MVMH resulting from long-term loss of vegetation in areas that were part of the original landscape design. These would result in some diminishment of the landscape architecture area of significance of the MVMH, including landscaping to maximize scenic, aesthetic and commemorative qualities along its route between Washington, D.C. and Mount Vernon.

Refinements were made to the preliminary construction staging area and access routes presented in the Draft EIS for the Preferred Alternative (Build Alternative B Option 2 Construction Access). The refinements incorporate more detailed development of construction phasing plans and efforts to reduce impacts to resources identified in the Draft EIS. To reduce impacts to the MVMH, the extent of the Preferred Alternative construction staging area on the MVMH property was removed except where required for direct access to build the realigned track at the northern end of the project site. Use of MVMH property for construction staging was reduced from approximately 0.55 acre to between 0.25 and 0.42 acre.

Construction staging areas on MVMH property would require clearance of 0.25 to 0.42 acre of vegetation and forested wetlands, which would remove roughly 10 to 15 trees over two inches DBH. Permanent station facilities and realigned track would require clearance of 0.16 to 0.33 acre of vegetation and forested wetlands, which would remove roughly five to ten trees over two inches DBH. The total area cleared of vegetation in areas planted as part of the original landscape design of the MVMH for construction staging and permanent facilities for the Preferred Alternative is 0.58 acre including the removal of a total of 10 to 15 trees over two inches DBH.

The proposed activities associated with construction of the temporary access driveways and staging areas and permanent station and track facilities would include removing contributing features (trees) of NRHP-listed resources. NPS parklands used for construction activities would be restored based on an NPS-approved planting plan. Vegetative screening in areas temporarily cleared for construction would require approximately 20-40 years of regrowth to be re-established similar to its current state. Restoration of MVMH temporarily impacted areas would be a condition of any permit issued by NPS.

In addition to the vegetation and resulting visual impacts described above related to the cultural landscape within the MVMH, 1.51 acres of trees and shrubs would be removed from the Greens Scenic Area easement consisting of 0.73 to 0.83 acre for the temporary construction staging area and 0.68 to 0.78 acre for the permanent station and track facilities. This removal of trees and shrubs would cause visual effects to the MVMH as a result.

The Preferred Alternative would cause an adverse effect under Section 106 to the MVMH due to permanent land transfers, temporary construction access and staging areas, temporary and permanent visual effects, and temporary and permanent loss of vegetation and plantings. In addition, as described above, the requirement of a land transfer and a permit for temporary use during construction and the related removal of vegetation would result in long-term adverse physical impacts to the attributes and features of the MVMH that qualify it for protection under Section 4(f). While use of the MVMH necessary for construction staging areas would not result in a land transfer, the use would not satisfy all of the conditions for temporary occupancy listed in 23 CFR 774.13(d) and described in **Section 2.1.2**. Therefore the Preferred Alternative would result in a Section 4(f) use of the MVMH.

5.3 Parkway of the National Capital Region

As described in **Section 4.2**, the PNCR comprises approximately 75-100 miles of parkways in the District of Columbia; Montgomery, Prince George's, and Anne Arundel Counties in suburban Maryland; and Arlington and Fairfax Counties, along with the City of Alexandria, in northern Virginia. The boundaries of the contributing arterial thoroughfares are coterminous with their rights-of-way and include both the MVMH and GWMP.

As described in **Section 5.1** and **Section 5.2**, respectively, the Preferred Alternative would cause an adverse effect under Section 106 to the GWMP and MVMH due to permanent land transfers, temporary construction access and staging areas, temporary and permanent visual effects, and temporary and permanent loss of vegetation and plantings. In addition, as described in these sections, the requirement of a land transfer and a permit for temporary use during construction and the related removal of vegetation would result in long-term adverse physical impacts to the attributes and features of the MVMH and GWMP that qualify it for protection under Section 4(f). While use of the MVMH and GWMP necessary for construction staging areas would not result in a land transfer, the temporary use would not satisfy all of the conditions for temporary occupancy listed in 23 CFR 774.13(d) and described in **Section 2.1.2**. Therefore the Preferred Alternative would result in a Section 4(f) use of the PNCR.

5.4 Potomac Greens Park

The Preferred Alternative would require the permanent acquisition of 2.54 to 2.76 acres of Potomac Greens Park. The area required for permanent use is along the western boundary of the park, which would be used for station facilities and realigned track. The acquisition would impact an existing pedestrian path, open space, and a seating area. Construction of the proposed station would remove existing vegetation from approximately 1.51 acres along the western boundary of the park, including trees that provide a partial visual buffer to the existing Metrorail and CSXT tracks, Metrorail traction power substation, and Potomac Yard development from Potomac Greens Park. These impacts would be mitigated by redesigning park facilities as necessary in conjunction with the replacement of park infrastructure and providing replacement planting where possible.

In addition, temporary use of 4.10 to 4.33 of Potomac Greens Park would be necessary to provide a staging area for construction equipment. To ensure safe conditions along the construction access route from the northern end of Potomac Greens neighborhood into Potomac Greens Park, the project proposes the relocation or closure of the park's playground, the boardwalk trail, and northern end of the Carpenter Road trail for the duration of construction. Therefore, use of this area during construction would not meet the conditions for temporary occupancy as defined in 23 CFR 774.13(d). As such, the Preferred Alternative would result in a Section 4(f) use of Potomac Greens Park.

724 5.5 Greens Scenic Area Easement

725 The Preferred Alternative would require the total use of 4.57 to 5.03 acres of the Green Scenic Area easement
 726 related to a land transfer along the western boundary of the park that would be permanently used for station
 727 facilities and realigned track (approximately 1.71 to 1.94 acres) plus a permit for temporary use of the Greens
 728 Scenic Area necessary to provide a staging area for construction equipment (approximately 2.86 to 3.09 acres).
 729 The permanent use would impact existing vegetation intended to provide a visual buffer to the CSXT tracks and
 730 Potomac Yard from the Potomac Greens Park. Construction staging, material laydown areas, and access
 731 driveways would require a permit from NPS for the clearing of vegetation and disturbance of soils in the areas
 732 designated for these activities for the Preferred Alternative.

733 Construction effects would also include the introduction of construction vehicles and materials. Construction of
 734 the proposed station would remove existing vegetation along the western boundary of the Green Scenic Area
 735 easement, including trees that provide a visual buffer to the CSXT tracks and Potomac Yard from the Potomac
 736 Greens Park. Construction would also require the removal of trees from the Greens Scenic Area easement that
 737 are intended to protect views from the GWMP. Approximately 1.51 acres of trees and shrubs would be removed
 738 from the Greens Scenic Area easement to accommodate the construction access, staging, and laydown areas,
 739 which would cause visual effects to the MVMH and GWMP as a result. Vegetative screening would require
 740 approximately 20-40 years of regrowth to be re-established similar to its current state.

741 Since the permit for temporary use of the Greens Scenic Area easement would require a new easement and
 742 land exchange, the Preferred Alternative would result in a Section 4(f) use of the Greens Scenic Area easement.
 743 The construction effects related to the removal of vegetation would result in long-term adverse physical impacts
 744 to the contributing features of NRHP listed resources, therefore the temporary use of the Greens Scenic
 745 easement for construction activities would not satisfy all of the conditions for temporary occupancy listed in 23
 746 CFR 774.13(d).

747 5.6 Rail Park (Planned)

748 The Preferred Alternative would not require the permanent use of the planned Rail Park, but would require a
 749 temporary construction easement of the entire 4.21 acres of the planned Rail Park to accommodate construction
 750 contracting offices at this location rather than at the northern end of the Potomac Greens neighborhood, thereby
 751 reducing vehicular traffic along Potomac Greens Drive by construction employees. Rail Park would also
 752 temporarily be used for construction access via an existing private access driveway that serves the WMATA
 753 Traction Power Substation. Construction access and staging would require the removal of the existing
 754 vegetation and the ground leveling of the site for use as a construction staging area.

755 The City of Alexandria has stated that Rail Park would likely not be constructed prior to the construction of the
 756 Preferred Alternative. However, should the planned Rail Park be constructed prior to the construction of the
 757 Preferred Alternative, public access to the planned Rail Park would be restricted due to the temporary
 758 construction easement. The temporary occupancy associated with the temporary construction easement would
 759 be for a short duration (less than the total time needed to construct the entire project), would not result in a
 760 change in ownership of the property, and would not result in permanent adverse physical impacts to the
 761 recreational features of the planned Rail Park. In addition, should the planned Rail Park be constructed prior to
 762 the construction of the Preferred Alternative, the park would be restored to an equivalent or better condition
 763 following the end of construction activities. Therefore, FTA has determined that, pursuant to 23 CFR 774(d) this
 764 temporary occupancy of 4.21 acres associated with the Preferred Alternative would not constitute a Section 4(f)
 765 use of the planned Rail Park. The City of Alexandria, as the official with jurisdiction over this resource, concurred
 766 with this determination in a letter signed May 18, 2016 (see **Attachment C**).

6.0 AVOIDANCE ALTERNATIVES

Since none of the proposed Section 4(f) uses described in **Section 5** was determined to have *de minimis* impact, FTA is required to determine whether a feasible and prudent avoidance alternative exists as described in **Section 2.3**. If no prudent and feasible avoidance alternative exists, the project must include all possible planning to minimize harm to the site, which includes all reasonable measures to minimize harm or mitigate impacts (49 U.S.C. 303(c)(2)). If no feasible and prudent avoidance alternative exists, FTA must select the project alternative that causes the least overall harm in light of the statute's preservation purpose.

6.1 Development of Alternatives

The planning process for the Potomac Yard Metrorail Station began with the *Potomac Yard Metrorail Station Concept Development Study* (2010), in which eight station alternatives in addition to a No Build Alternative were evaluated. The station alternatives were developed in consultation with the Metrorail Station Feasibility Work Group, an advisory group of elected and appointed officials. At a conceptual level, the study examined the characteristics of a station at potential locations. Station characteristics considered when evaluating the alternatives included property ownership, station design, relationship to NPS lands, ridership, financing, and implementation considerations.

The No Build Alternative and the eight Metrorail station alternatives identified during the *Concept Development Study* (2010) were advanced into the scoping phase of the Environmental Impact Statement (EIS) and were presented to governmental agencies and the general public for review and comment during the scoping process and at the agency and public scoping meetings. Each of the Build Alternatives from the *Concept Development Study* included three potential station options (underground, at-grade, and aerial). The Build Alternatives, referred to during the scoping process as Metrorail Station Alternatives A, B1, B2, B3, C1, C2, D1, and D2, are shown in **Figure 6-1** on page D-29 and described in the *Initial Screening of Alternatives Report* (2011). A Virginia Railway Express (VRE) Station Alternative, Bus Alternative, and Parking Garage Alternative were also included in the initial screening of alternatives. The No Build Alternative was not evaluated as part of the initial screening. The Preferred Alternative is Build Alternative B with Option 2 Construction access from the Draft EIS, which is based on refinements to the initial Metrorail Station Alternatives B1, B2, and B3 (at-grade options) as described below.

To develop a reasonable range of alternatives to be fully evaluated, the alternatives from the *Concept Development Study*, plus additional alternatives suggested during the scoping process (also shown in **Figure 6-1**) were further refined as part of a two-step process. The *Initial Screening of Alternatives Report* documented the first step of the refinement process, which screened alternatives based on the following criteria:

1. **Responsiveness to Project Purpose and Need:** All alternatives were found to meet the project Purpose and Need with the exception of Alternatives E1, E2, the VRE Station Alternative, Bus Alternative, and the Parking Garage Alternative.
2. **Consistency with Land Use and Development Plans:** All of the remaining alternatives that met project Purpose and Need were found to be consistent with land use and development plans with the exception of the at-grade options of Alternatives C1, C2, D1, D2, and D3.
3. **Technical Feasibility:** Metrorail Station Alternatives A, B1, B2 and B3 (aerial and underground options only); C1, C2, D1, and D2 (at-grade, aerial, and underground options); D3 (at-grade and underground options only) did not pass the initial screening because they were not technically feasible.

As a result of the initial screening of alternatives, five Metrorail station Build Alternatives (at-grade Build Alternatives A, B1, B2, and B3, and aerial Alternative D3) were identified as potentially feasible location options for a Potomac Yard Metrorail station. However, the initial screening of alternatives also determined there could be numerous variations in the precise layout and location of the five alternatives. Therefore, “feasible station zones” that could accommodate at-grade Build Alternatives A, B1, B2, and B3, and aerial Alternative D3 and minimize the potential for social, environmental, and economic impacts, while maximizing the potential benefits of a Metrorail station, were identified for further analysis. The size and configuration of the station and associated facilities were determined for each of the alternatives based on technical considerations to minimize track length and complexity; minimize impacts to existing Metrorail facilities; maintain track alignment geometry in accordance with WMATA standards; and comply with CSXT standards for vertical and horizontal clearance. The potential station locations within each zone were chosen to maximize access to the planned development in Potomac Yard, minimize impacts to Potomac Greens Park and the Greens Scenic Area easement, and

minimize impact to wetlands. The station locations chosen for each of the three zones became Build Alternatives A, B and D, which were evaluated in the Draft EIS for the Potomac Yard Metrorail Station project. For Build Alternative B, two construction access options were developed and evaluated in the Draft EIS. The Preferred Alternative evaluated in the Final EIS and this Section 4(f) evaluation is based on Build Alternative B Option 2 Construction Access (no access from the GWMP roadway), with further refinements made to the design and construction staging that are described in the Final EIS, Section 2.5.2 Preferred Alternative.

To determine if a feasible and prudent avoidance alternative exists, a reanalysis of the initial alternatives screened out during the EIS scoping process and several new alternatives suggested by contributing agencies during the EIS development process are examined in **Section 6.2**.

6.1.1 Development of Alternative Construction Access

In addition to the station alternatives development process described under **Section 6.1**, additional consideration was given to different construction access methods. During project development, As described in previous sections, commercial vehicles are prohibited from the GWMP, with limited exceptions, under *NPS Management Policies 2006* (9.2.1.2.1) and Federal regulations (36 CFR 5.6). NPS has stated that it would not issue a permit for construction access for the project from the GWMP because construction access would impact park natural and cultural resources and visitor use and enjoyment of those resources. To reduce impacts to Section 4(f) resources, a modified construction access option was assessed for Build Alternatives A and B. Construction access for Build Alternatives A and B was assessed under two construction options:

- **Option 1 Construction Access:** Option 1 would include access to the area east of the existing Metrorail tracks provided via a temporary construction access driveway from the George Washington Memorial Parkway (GWMP). Construction vehicles would use the southbound GWMP roadway from the Airport Access Road to Slaters Lane (1.7 miles). Additional access would be provided through the residential areas of Potomac Greens and Old Town Greens via the entire length of Potomac Greens Drive (0.7 mile); construction vehicles would access this area from U.S. Route 1.
- **Option 2 Construction Access:** Option 2 would only include access to the area east of the existing Metrorail tracks through the residential areas of Potomac Greens and Old Town Greens via the entire length of Potomac Greens Drive (0.7 mile); construction vehicles would access this area from U.S. Route 1.

For both Build Alternatives A and B, Option 2 Construction Access would reduce and minimize potential impacts to the GWMP and MVMH over the Option 1 Construction Access. Build Alternative A would still require the use of Potomac Greens Park and Greens Scenic Area easement. Build Alternative B would still require the use of GWMP, MVMH, Potomac Greens Park, and Greens Scenic Area easement

Refinements were made to the preliminary construction staging area and access routes presented in the Draft EIS for the Preferred Alternative (Build Alternative B Option 2 Construction Access). The refinements incorporate more detailed development of construction phasing plans and efforts to reduce impacts to resources identified in the Draft EIS. The following refinements were made for the Preferred Alternative:

- *East of the Metrorail tracks* – To minimize impacts to the GWMP, the extent of the Preferred Alternative construction staging area on the GWMP property is removed except where required for direct access to build the realigned track at the northern end of the project site. A wider area of construction activity immediately north of the station is indicated to accommodate installation of a crossover switch on the realigned track. Between 0.25 and 0.42 acre of GWMP property in this area will be required to accommodate construction staging. The construction staging areas avoid archaeological sites identified during the Phase I archaeological investigations. In addition, to allow for potential minor design modifications to the station pedestrian and bicycle access facilities in Potomac Greens Park, the extent of the construction staging area and access area is expanded by up to 0.88 acre to accommodate potential modifications.
- *In between the Metrorail tracks and CSXT right-of-way* – The construction staging area is expanded by about 5.37 acres to the south across the full extent of the City of Alexandria Rail Park to accommodate construction contracting offices at this location rather than at the northern end of the Potomac Greens neighborhood, thereby reducing vehicular traffic along Potomac Greens Drive by construction employees.
- *Access Routes through the Old Town Greens and Potomac Greens neighborhoods* – To ensure safe conditions along the construction access route along the WMATA substation access road through the Old

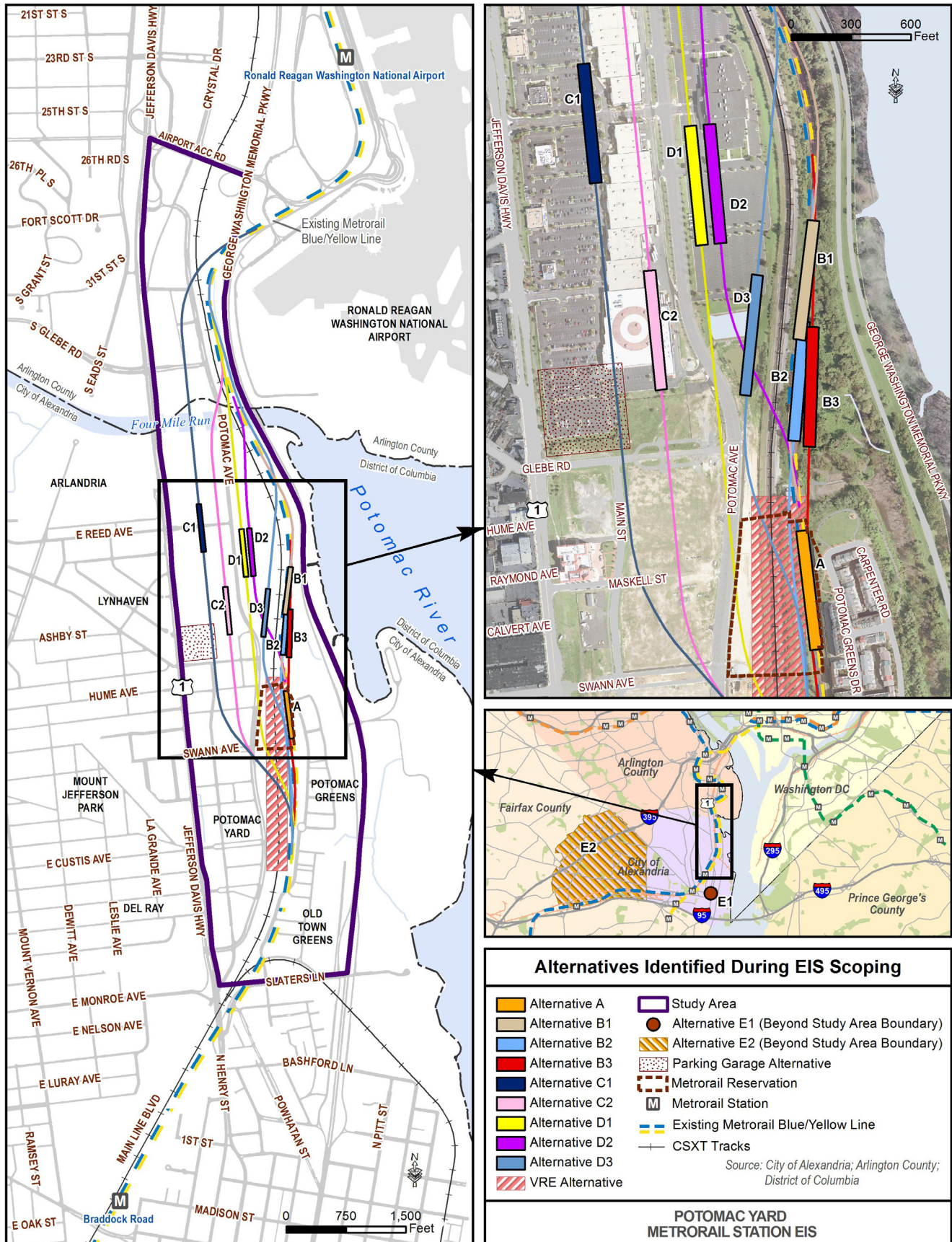
Town Greens common area, the project proposes temporarily relocating the playground to another site within Old Town Greens and temporarily closing the tennis courts for the duration of construction. Similarly, to ensure safe conditions along the construction access route from the northern end of Potomac Greens neighborhood into Potomac Greens Park, the project proposes temporarily relocating or closing the park's playground, the boardwalk trail, and northern end of the Carpenter Road trail for the duration of construction. To allow construction vehicles to circulate in a single direction with less impact to neighborhood traffic flow, the access route through the Potomac Greens neighborhood also includes Carpenter Road.

- *West of the CSXT tracks* – To allow for potential minor design modifications to the station entrance pavilions and pedestrian and bicycle access facilities along Potomac Yard Park, the extent of the construction staging area and access area is expanded by about 0.15 acre to accommodate potential modifications.

Although the impacts to Section 4(f) resources would be minimized under Option 2 Construction Access for Build Alternatives A and B over Option 1 Construction Access, impacts to Section 4(f) resources would still exist under both Build Alternatives. Build Alternatives A and B could not be considered a feasible and prudent avoidance alternative due to the remaining impacts to Section 4(f) resources.

In regards to Build Alternative D, access from the GWMP and permanent impact to GWMP parkland could not be avoided due to the construction of the aerial structures over Four Mile Run. The development of B-CSX Design Option is described further in **Section 6.1.2**.

The Draft Section 4(f) Evaluation circulated with the Draft EIS determined that each of the Build Alternatives A, B, and D would require use of Section 4(f) resources. Therefore, none of the three Build Alternatives (including the Preferred Alternative, which is Build Alternative B Option 2 Construction Access) could be considered a feasible and prudent avoidance alternative.

891 **Figure 6-1: Initial Alternatives Considered**

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6.1.2 Development of B-CSX Design Option

In an attempt to avoid NPS property and the Greens Scenic Area easement at the request of NPS, a modified design option of Build Alternative B (known as B-CSX Design Option) was developed and evaluated in the Draft EIS. B-CSX Design Option moves the station and track elements of the alternative further to the north and west to fully avoid NPS owned property for the GWMP and the Greens Scenic Area easement located along the western edge of the parkway property and administered by NPS. The design option requires the relocation of the existing CSXT freight rail line further to the west and the placement of the proposed Metrorail station in the location formerly occupied by the CSXT line. **Figure 6-2** shows B-CSX Design Option in relation to Build Alternative B.

On November 13, 2013 the City of Alexandria, WMATA, and CSXT met to review the conceptual plans for B-CSX Design Option with CSXT staff. On May 28, 2014 CSXT staff responded to the City of Alexandria via letter regarding the proposed B-CSX Design Option indicating that while there may be a few minor improvements to the CSXT property and assets as part of this project, CSXT prefers that this option would not be chosen. CSXT expressed that the disruption to both passenger and freight operations during construction outweighs any benefits that would be gained by CSXT.

However, the letter also stated that CSXT understands the importance of the project to the neighborhood development, the city, WMATA, and the region and, thus, CSXT is willing to have the Design Option be considered as a possible alternative for the Potomac Yard Metrorail Station as long as certain conditions are met. These conditions include the following:

- CSXT shall be reimbursed for all costs associated with the project including:
 - Preliminary engineering plan reviews
 - All necessary track and signal work
 - Construction, engineering, and inspection
 - Full time flagman for duration of construction
- Project assumes responsibilities for any Amtrak/VRE passenger delays and penalties
- CSXT acquires the new right-of-way via fee simple ownership
- Maintain existing right-of-way width for the main section, at a minimum
- All pedestrian crossings must be grade separated and span the entire CSXT right-of-way
- CSXT must keep the ability to maintain access to its right-of-way and access roads

Additionally, the Virginia Railway Express (VRE), the Virginia Department of Rail and Public Transportation (DRPT), and Amtrak provided comments during the Draft EIS comment period opposing B-CSX Design Option, stating that it posed the greatest potential negative impacts to rail operations.

925 **Figure 6-2: Build Alternative B and B-CSX Design Option**



926

6.2 Feasible and Prudent Avoidance Analysis

Based on the findings of the *Initial Screening of Alternatives Report*, initial alternatives were screened out during the EIS scoping process that failed to meet the evaluation criteria. The No Build Alternative and each of the initial alternatives not advanced beyond the scoping phase were re-examined during the 4(f) evaluation to determine whether they met the requirements of a feasible and prudent avoidance alternative as described in **Section 2.3**. Alternatives were determined to meet the requirements of a feasible and prudent avoidance alternative through a three-step analysis, based on the following criteria:

1. **Does the alternative avoid Section 4(f) resources?** Any alternative that uses a Section 4(f) resource cannot be considered an avoidance alternative.
2. **Feasible Factor - Can the alternative be built as a matter of sound engineering?** Alternatives were evaluated by a review of compliance with the current WMATA Manual of Design, Release 9 (2008) and relevant CSXT criteria.
3. **Prudent Factors: An alternative is not prudent if:**
 - a. It compromises the project to a degree that it is unreasonable to proceed in light of the project's stated purpose and need (i.e., the alternative doesn't address the purpose and need of the project);
 - b. It results in unacceptable safety or operational problems;
 - c. After reasonable mitigation, it still causes severe social, economic, or environmental impacts; severe disruption to established communities; severe or disproportionate impacts to minority or low-income populations; or severe impacts to environmental resources protected under other Federal statutes;
 - d. It results in additional construction, maintenance, or operational costs of extraordinary magnitude;
 - e. It causes other unique problems or unusual factors; or
 - f. It involves multiple factors as outlined above that, while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Table 6-1 shows the results of the feasible and prudent avoidance analysis for all the alternatives considered in project planning, including the initial alternatives that were eliminated during the scoping process and additional alternatives that were suggested by cooperating and participating agencies during the EIS development process. The additional alternatives suggested during the EIS development process are shown in **Figure 6-3** on page D-35 and include the realignment of CSXT tracks to accommodate new WMATA tracks; the introduction of nearby ferry service; and providing a streetcar connection to existing Metrorail stations. As shown in the table, all of the initial and additional alternatives failed to meet the feasible and prudent avoidance analysis and cannot be considered avoidance alternatives.

All of the initial Metrorail Station Alternatives and the VRE Station Alternative were found to use a Section 4(f) resource and were thus eliminated for consideration as an avoidance alternative. The No Build, E1, E2, Bus, Parking Garage, Ferry Service, and Streetcar Service Alternatives were all deemed technically feasible and did not result in any unacceptable operational problems, but they did not address the project's purpose and need, a factor in identifying prudent avoidance alternatives and thus were eliminated for consideration. These seven alternatives did not meet the project's purpose and need for a variety of factors, including:

- Distance to Potomac Yard;
- Inability to accommodate travel demand;
- Inability of alternatives to provide direct access to the regional Metrorail system or transit connectivity; and
- Lack of support of travel modes that have the potential to improve regional air quality.

Since all of the initial alternatives eliminated during scoping failed the feasible and prudent avoidance analysis, none of them can be considered a feasible and prudent avoidance alternative.

While the CSXT Realignment Alternatives would avoid Section 4(f) resources and addresses the project's purpose and need, the underground or aerial versions of this alternative were deemed not feasible due to the inability of realigned track to tie-in to existing track given the vertical and horizontal track geometry requirements. The at-grade version of the CSXT Realignment Alternative (known as B-CSX Design Option) was deemed feasible but not prudent because it would result in:

- substantial disruption to CSXT, Amtrak, and VRE rail operations due to track shutdowns during construction;

- the permanent relocation of CSXT right-of-way;
- reduction of the amount of developable land for the North Potomac Yard redevelopment area;
- displacement of an existing business;
- substantially higher capital costs; and
- A minimum three year delay in the opening of the station since CSXT has not agreed to move their tracks.

Cumulatively taking these factors into account, B-CSX Design Option would cause unique problems and impacts of extraordinary magnitude and therefore would not be a prudent avoidance alternative.

Table 6-1: Identification of Feasible and Prudent Avoidance Alternatives

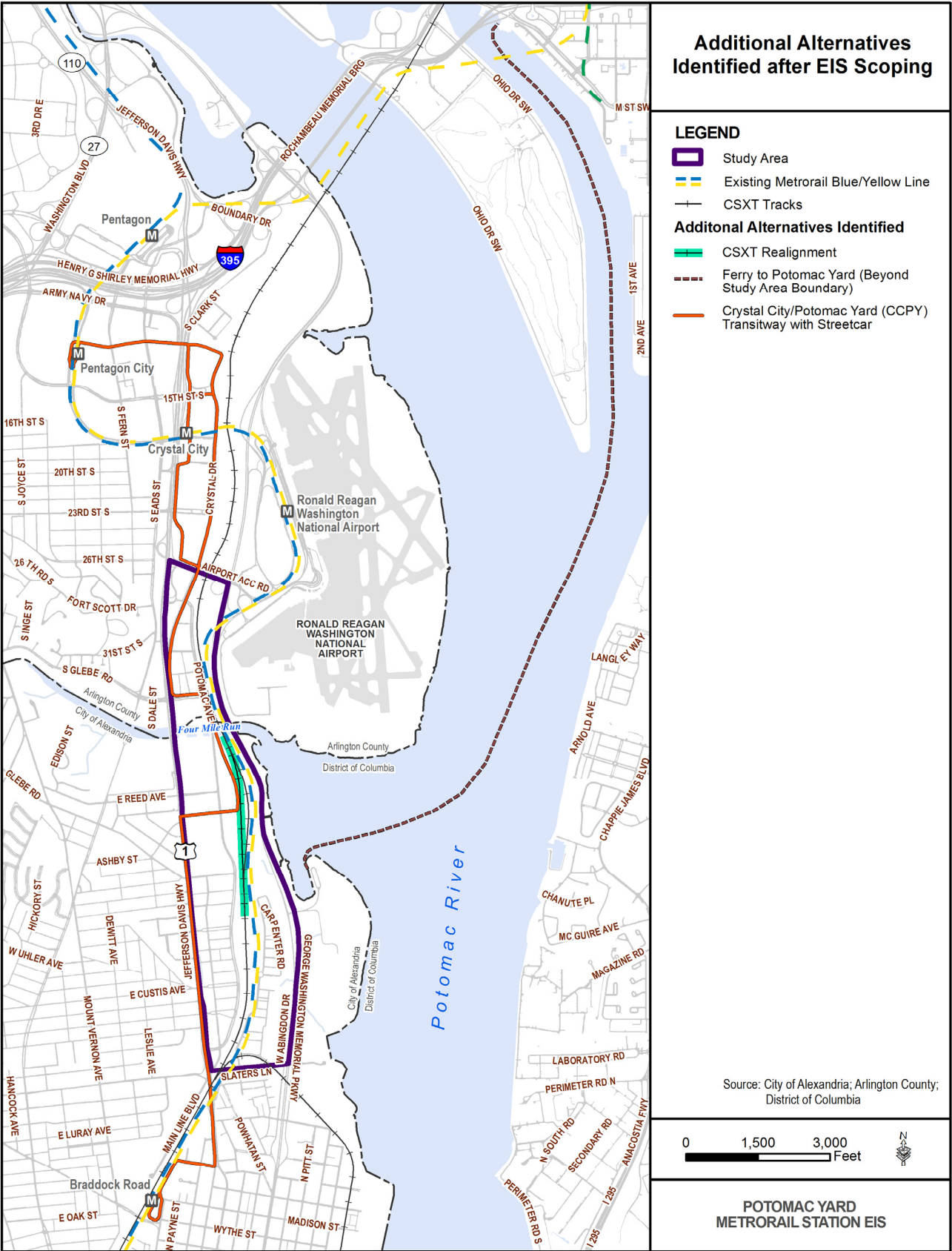
Alternatives		Avoids Section 4(f) Resource?	Feasible Factor	Prudent Factors		Feasible and Prudent Avoidance Alternative?
			Can be built as a matter of sound engineering?	Does not result in unacceptable operational problems?	Addresses project's purpose and need?	
INITIAL ALTERNATIVES (Prior to EIS Scoping)						
No Build Alternative	existing condition	Yes	Yes	Yes	No	No
Metrorail Station Alternative A	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative B1	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative B2	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative B3	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative C1	at-grade	No	-	-	-	No
	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative C2	at-grade	No	-	-	-	No
	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative D1	at-grade	No	-	-	-	No
	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative D2	at-grade	No	-	-	-	No
	underground	No	-	-	-	No
	aerial	No	-	-	-	No
Metrorail Station Alternative D3	at-grade	No	-	-	-	No
	underground	No	-	-	-	No
Metrorail Station Alternative E1	at-grade	Yes	-	-	No	No
Metrorail Station Alternative E2	at-grade	Yes	-	-	No	No
VRE Station Alternative	at-grade	No	-	-	-	No

Alternatives		Avoids Section 4(f) Resource?	Feasible Factor	Prudent Factors		Feasible and Prudent Avoidance Alternative?
			Can be built as a matter of sound engineering?	Does not result in unacceptable operational problems?	Addresses project's purpose and need?	
Bus Alternative	at-grade	Yes	Yes	Yes	No	No
Parking Garage Alternative	at-grade	Yes	Yes	Yes	No	No
ADDITIONAL ALTERNATIVES (After EIS Scoping)						
CSXT Realignment Alternative	underground	Yes	No	-	Yes	No
	at-grade (B-CSX Design Option)	Yes	Yes	No	Yes	No
	aerial	Yes	No	-	Yes	No
Ferry Service Alternative	at-grade	Yes	-	-	No	No
Streetcar Service Alternative	at-grade	Yes	-	-	No	No
PREFERRED ALTERNATIVE						
Preferred Alternative (Build Alternative B Option 2 Construction Access)	at-grade	No	Yes	Yes	Yes	No

6.3 Feasible and Prudent Avoidance Analysis Conclusion

Based on the analysis of potential avoidance alternatives, none of the alternatives considered constitutes a feasible and prudent avoidance alternative in accordance with 23 CFR Part 774. Thus, a least overall harm analysis of the three Build Alternatives, B-CSX Design Option, and the Preferred Alternative is required. This least overall harm analysis is included in **Section 8.0**.

992 **Figure 6-3: Additional Alternatives Identified After EIS Scoping**



7.0 ALL POSSIBLE PLANNING TO MINIMIZE HARM

This Section 4(f) evaluation documents “measures to minimize harm” in accordance with 23 CFR 774.3(a)(2). From the initial screening of alternatives until the design of each Build Alternative, numerous modifications were made to further minimize impacts to parklands and historic sites. Measures to minimize harm to Section 4(f) resources were considered throughout the planning process and will continue during the design and construction process.

Refinements were made to the preliminary construction staging area and access routes presented in the Draft EIS for the Preferred Alternative (Build Alternative B Option 2 Construction Access). The refinements incorporate more detailed development of construction phasing plans and efforts to reduce impacts to resources identified in the Draft EIS. To reduce impacts to the GWMP, the extent of the Preferred Alternative construction staging area on the GWMP property was removed except where required for direct access to build the realigned track at the northern end of the project site. Use of GWMP property for construction staging was reduced from approximately 0.55 acre to between 0.25 and 0.42 acre.

The City of Alexandria and NPS have developed potential mitigation measures to impacts to Section 4(f) resources in a Net Benefits Agreement as documented in the least overall harm analysis (see **Section 8.0**). The efforts to minimize harm are based on refinements to the Preferred Alternative, consideration of public comment, agency consultation, and the development of a Section 106 memorandum of agreement. During FTA’s consideration of its decision and during final design, additional measures may be agreed on to further reduce potential impacts on Section 4(f) resources.

8.0 LEAST OVERALL HARM ANALYSIS

As described in **Section 6.0**, no feasible and prudent avoidance alternative was identified that avoids Section 4(f) properties. Therefore, pursuant to 23 CFR 774.3(c), FTA may approve only the alternative that causes the “least overall harm” in light of the purposes of Section 4(f). The regulations require that determining which alternative causes the least overall harm is based upon assessing and balancing the following seven factors:

1. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
2. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
3. The relative significance of each Section 4(f) property;
4. The views of the officials with jurisdiction over each Section 4(f) property;
5. The degree to which each alternative meets the purpose and need for the project;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and,
7. Substantial differences in costs among the alternatives.

The following sections of this chapter summarize the results of an assessment of each of the three project Build Alternatives and B-CSX Design Option evaluated in the Draft EIS and the Preferred Alternative evaluated in the Final EIS relative to these seven factors. The assessment considers the use of six Section 4(f) resources by the three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option as described in the Draft Section 4(f) Analysis. These Section 4(f) resources include:

- George Washington Memorial Parkway (qualifies for protection as both a park and historic resource);
- Mount Vernon Memorial Highway (qualifies for protection as both a park and historic resource);
- Parkways of the National Capital Region (qualifies for protection as a historic resource);
- Potomac Greens Park (qualifies for protection as a park);
- Greens Scenic Area easement (qualifies for protection as both a park and historic resource); and
- Rail Park (qualifies for protection as a park).

8.1 Factor 1: Ability to Mitigate Adverse Impacts to Each Section 4(f) Property

This factor requires an analysis of how the effects of each alternative can be mitigated for each of the six Section 4(f) resources. **Tables 8-1** and **8-2** summarize the uses that would occur and mitigation measures that have been proposed as a result of consultation with the officials with jurisdiction, including the City of Alexandria and NPS. The proposed mitigation is further discussed below by Section 4(f) resource. Most adverse effects on Section 4(f) resources by the Preferred Alternative can be mitigated. The following subsections describe the mitigation measures that are proposed under each alternative.

8.1.1 GWMP, MVMH, and PNCR

Build Alternative A Option 1 Construction Access, Build Alternative B Option 1 Construction Access, the Preferred Alternative (Build Alternative B Option 2 Construction Access), and Build Alternative D would use lands of the GWMP, MVMH, and PNCR. Permanent acquisition of land varies, with Build Alternative B Option 1 Construction Access and the Preferred Alternative (Build Alternative B Option 2 Construction Access) permanently using less of park land than Build Alternative D. Build Alternative A Option 1 Construction Access, Build Alternative B Option 1 Construction Access, the Preferred Alternative (Build Alternative B Option 2 Construction Access), and Build Alternative D would also use parkland of the GWMP and MVMH for temporary construction activities in the study area before mitigation.

Build Alternative A Option 2 Construction Access and B-CSX Design Option would not require the permanent use or temporary occupancy of the GWMP, MVMH, and PNCR.

Build Alternative A Option 1 Construction Access would require the use of 0.30 acre of parkland to provide access for construction vehicles from the Parkway to the station location. Construction access roads for Build Alternative A Option 1 Construction Access would require the removal of a portion of the vegetation along the GWMP. Although the property would be replanted after construction, approximately 20-40 years of vegetative growth would be required before the vegetation returned to the current appearance.

Table 8-1: Uses and Potential Mitigation by Resource

Resource	Associated Build Alternative	Use		Temporary Occupancy (acres)	Potential Mitigation
		Permanent (acres)	Temporary (acres)		
GWMP/ MVMH/ PNCR	Build Alternative A Option 1 Construction Access	0.00	0.30	0.00	Permanent: <ul style="list-style-type: none"> Develop landscape and visual screening plans consistent with the Vegetation Cultural Landscape Report. Replace landscaping and park amenities impacted by the alternative. Temporary: <ul style="list-style-type: none"> Restore temporarily disturbed areas to better than existing conditions through construction restoration, landscaping, and vegetation plans as agreed to with NPS.
	Build Alternative B Option 1 Construction Access	0.16	0.78	0.00	
	Preferred Alternative (Build Alternative B Option 2 Construction Access)	0.16 – 0.33	0.25 – 0.42	0.00	
	Build Alternative D	1.43	2.40	0.00	
Potomac Greens Park	Build Alternative A Option 1 Construction Access	0.71	2.30	0.00	Permanent: <ul style="list-style-type: none"> Replace landscaping and park amenities impacted by the alternative. Temporary: <ul style="list-style-type: none"> Restore temporarily disturbed areas to better than existing conditions through construction restoration, landscaping, and vegetation plans as agreed to with NPS.
	Build Alternative A Option 2 Construction Access	0.71	1.61	0.00	
	Build Alternative B Option 1 Construction Access	2.54	3.43	0.00	
	Preferred Alternative (Build Alternative B Option 2 Construction Access)	2.54 – 2.76	4.10 – 4.33	0.00	
	B-CSX Design Option	0.10	0.01	0.00	
	Build Alternative D	1.21	0.40	0.00	
Greens Scenic Area Easement	Build Alternative A Option 1 Construction Access	0.00	0.25	0.00	Permanent: <ul style="list-style-type: none"> Develop new easement agreement with NPS. Develop landscape and visual screening plans consistent with the Vegetation Cultural Landscape Report. Replace landscaping and park amenities impacted by the alternative. Temporary: <ul style="list-style-type: none"> Restore temporarily disturbed areas to better than existing conditions through construction restoration, landscaping, and vegetation plans as agreed to with NPS.
	Build Alternative A Option 2 Construction Access	0.00	0.13	0.00	
	Build Alternative B Option 1 Construction Access	1.71	3.09	0.00	
	Preferred Alternative (Build Alternative B Option 2 Construction Access)	1.71 – 1.94	2.86 – 3.09	0.00	
	Build Alternative D	0.00	0.02	0.00	
Rail Park	Build Alternative A (both options)	Less than 0.01	0.00	1.79	Permanent: <ul style="list-style-type: none"> Replace park amenities impacted by the alternative. Temporary: <ul style="list-style-type: none"> Restore temporarily disturbed areas to existing
	Build Alternative B Option 1 Construction Access	0.00	0.00	0.96	

Resource	Associated Build Alternative	Use		Temporary Occupancy (acres)	Potential Mitigation
		Permanent (acres)	Temporary (acres)		
	Preferred Alternative (Build Alternative B Option 2 Construction Access)	0.00	0.00	4.21	conditions through construction restoration, landscaping, and vegetation plans.
	B-CSX Design Option	0.00	0.0	0.96	
	Build Alternative D	1.55	0.00	1.71	

Table 8-2: Section 4(f) Resources Requiring Mitigation by Alternative

Section 4(f) Resources with Potential Impacts	Alternative Requires Mitigation to Section 4(f) Resources					
	Build Alternative A Option 1 Construction Access	Build Alternative A Option 2 Construction Access	Build Alternative B Option 1 Construction Access	Preferred Alternative (Build Alternative B Option 2 Construction Access)	B-CSX Design Option	Build Alternative D
GWMP	Yes	No	Yes	Yes	No	Yes
MVMH	Yes	No	Yes	Yes	No	Yes
PNCR	Yes	No	Yes	Yes	No	Yes
Potomac Greens Park	Yes	Yes	Yes	Yes	Yes	Yes
Greens Scenic Area Easement	Yes	Yes	Yes	Yes	No	Yes
Rail Park	Yes	Yes	Yes	Yes	Yes	Yes
Number of Section 4(f) Resources Requiring Mitigation	6	3	6	6	2	6

Build Alternative B Option 1 Construction Access would require the permanent use of a portion of parkland (0.16 acre) of the GWMP for the realigned track alignment. The use of 0.78 acre of parkland for temporary construction activities is necessary to provide access for construction vehicles from the Parkway to the station location. Although the property would be replanted after construction, approximately 20-40 years of vegetative growth would be required before the vegetation returned to the current appearance. The Preferred Alternative (Build Alternative B Option 2 Construction Access) would require the permanent use of a portion of parkland (0.16 to 0.33 acre) of the GWMP for the realigned track alignment. The use of 0.25 to 0.42 acre of parkland for temporary construction activities is necessary to provide access for construction staging. Construction staging would remove much of the vegetation that currently provides a visual barrier between the GWMP and the proposed location of the Metrorail station for Build Alternative B.

Refinements were made to the preliminary construction staging area and access routes presented in the Draft EIS for the Preferred Alternative (Build Alternative B Option 2 Construction Access). The refinements incorporate more detailed development of construction phasing plans and efforts to reduce impacts to resources identified in the Draft EIS. To reduce impacts to the GWMP, the extent of the Preferred Alternative construction staging area on the GWMP property was removed except where required for direct access to build the realigned track at the northern end of the project site. Use of GWMP property for construction staging was reduced from approximately 0.55 acre to between 0.25 and 0.42 acre.

Build Alternative D would require the permanent use of 1.43 acres of parkland of the GWMP for the realigned track alignment. Permanent use includes both aerial and physical impacts required for reconnection to the existing track alignment. The use of 2.40 acres of parkland for Build Alternative D for temporary construction activities is necessary to provide access for construction vehicles from the Parkway to the station location. Although the property would be vegetated after construction, approximately 20-40 years of vegetative growth would be required before the vegetation returned to the current appearance. Construction staging for Build

Alternative D would require the removal of a portion of the vegetation along the GWMP, most notably in the vicinity of Four Mile Run.

For Build Alternative A (both construction access options), Build Alternative B Option 1 Construction Access, the Preferred Alternative (Build Alternative B Option 2 Construction Access), and Build Alternative D, construction of temporary access roads would require removal of trees and other vegetation that were planted as part of the original design of the GWMP. The vegetation was planted in an effort to perpetuate a scenic quality and contemplative experience and to screen objectionable views to Potomac Yard. Removal of the vegetation would also expose visual elements to the property's setting that contribute to its historic significance. As the first parkway built and maintained by the U.S. government, the MVMH is nationally significant. Linking George Washington's former home, Mount Vernon in Fairfax County with the Arlington Memorial Bridge, the 15.2-mile segment was designed and landscaped to maximize scenic, aesthetic and commemorative qualities. The larger GWMP, which includes the MVMH, also serves as a memorial to George Washington, as the Parkway was conceived as a route between his home at Mount Vernon and the Potowmack Canal in Great Falls, Virginia. The PNCR, which includes both the MVMH and GWMP, is a collection of landscaped parkways that serve as a link among the parks, monuments, and suburbs of the national capital region. The parkways remain vital components of the regional transportation arteries and contribute to the historic symbolism and design of the nation's capital.

For the three Build Alternatives (including the Preferred Alternative), removal of vegetation would expose visual elements into the property's setting. B-CSX Design Option does not require the removal of vegetation along the GWMP. The gap in vegetation created by the access roads and construction clearing would open up views to the proposed Potomac Yard Metrorail Station, Metrorail tracks, and the Potomac Yard Shopping Center that may last 20-40 years until the area is re-vegetated with trees of similar maturity. While the rail yard is no longer existent, removing the trees at this location would expose views to the west that were never intended as part of the design. These views would not perpetuate a scenic quality and contemplative experience for travelers, an important characteristic of the parkway experience. Additionally, the western viewshed of the GWMP (towards Potomac Yard) has been altered over time and will continue to be changed independently of the Metrorail station by increased urban development as identified in Section 3.8 Visual Resources of the Potomac Yard Metrorail Station Draft EIS Volume I.

Minimization measures such as vegetation planting and building design would help minimize visual effects to the GWMP, but are not anticipated to fully mitigate effects. Vegetation, especially trees, would be added and restored to the GWMP, in accordance with the Secretary of the Interior's *Standards for Treatment of Historic Properties*. Mitigation would reflect the core design principles of the GWMP as documented in the *Mount Vernon Memorial Highway Cultural Landscape Report*, Vol. I, p. 72-74 (NPS, 1987). Adding new landscaping to Potomac Greens Park and the Greens Scenic Area easement would provide a visual buffer to the proposed station. Landscape mitigation measures would be consistent with the terms of the scenic easement, as well as provide potential mitigation for impacts to the easement. The minor viewshed effects to the GWMP are not so severe that they substantially impact the protected activities (recreational driving), features, or attributes of the contributing resources to the GWMP.

Several preliminary measures were proposed to mitigate permanent and temporary uses of the GWMP and Mount Vernon Memorial Trail for Build Alternatives B and D in the Draft EIS. The project will develop landscape and visual screening plans consistent with the *Vegetation Cultural Landscape Report* and the U.S. Department of Agriculture, Bureau of Public Roads, *Plan for Development, Mount Vernon Memorial Highway, Washington, DC to Mount Vernon, VA.* (1930). The project will also replace any park amenities and landscaping that are removed or displaced due to any permanent use by following a new landscaping planting strategy that is consistent with the historic character and design principles of the GWMP, as documented in the *Mount Vernon Memorial Highway Cultural Landscape Report*, Vol. I, p. 72-74 (NPS, 1987). The planting strategy ideally will utilize native plant and tree species described and used for the MVMH construction in the 1930s, while removing non-native invasive species along the Parkway. Vegetation, especially trees, would be added and restored to the GWMP, in accordance with the Secretary of the Interior's *Standards for Treatment of Historic Properties*. Vegetative screening would require approximately 20-40 years of regrowth to be re-established similar to its current state. Conversely, some vegetation along the GWMP within the study area could be thinned or removed to improve and restore important views east toward the Potomac River identified in the *Vegetation of the George Washington Memorial Parkway Cultural Landscape Report* (2009). Additional vegetation could be planted to provide a visual buffer between the GWMP and the project.

Temporary construction impact mitigation efforts include the restoration of disturbed areas to prior conditions through construction restoration, landscaping, and vegetation plans as agreed to with NPS. Mitigation would include restoration of parkland temporarily used for construction activities to a condition equal to or better than

current and planned conditions. The potential mitigation measures if implemented would mitigate the effects to the park under all alternatives. For Build Alternatives that require construction access from the GWMP, a construction access permit is required. As described in previous sections, commercial vehicles are prohibited from the GWMP, with limited exceptions, under *NPS Management Policies 2006* (9.2.1.2.1) and Federal regulations (36 CFR 5.6). NPS has stated that it would not issue a permit for construction access for the project from the GWMP because construction access would impact park natural and cultural resources and visitor use and enjoyment of those resources. The Preferred Alternative would not require construction access from the GWMP.

For the Preferred Alternative, the ability to mitigate impacts to the GWMP and MVMH are based on measures that would be implemented as part of the Section 106 Memorandum of Agreement (MOA) and Net Benefits Agreement between the City of Alexandria and NPS. To mitigate adverse effects to cultural resources, the draft MOA includes the following measures:

- Ongoing consultation among FTA, the City of Alexandria, WMATA, NPS, VDHR, and the consulting parties during the design and construction phases of the project.
- Implementation of Construction Protection Plans (CPP) to avoid project-related construction damage to any known or unknown built historic property;
- Land exchange for permanently impacted areas of the GWMP and Greens Scenic Area easement;
- Design review of prominent elements of the station;
- Completion of a current conditions landscape plan for the area of vegetation removal within the GWMP; and
- Restoration of vegetative screening along the western side of the MVMH and GWMP per the 2009 Cultural Landscape Report.

To mitigate the loss of GWMP parkland and easement land and impacts to NPS cultural and natural resources, the City of Alexandria and NPS have agreed on a draft package of mitigations that would ensure a net benefit to the GWMP. Summarizing the mitigations, the City of Alexandria will:

- Convey land to the United States in fee for permanently impacted areas of the GWMP and Greens Scenic Area easement. The United States will convey to the City of Alexandria in fee approximately 0.16 acres of land within the GWMP, and it will release its easement over approximately 1.71 acres of the Greens Scenic Area easement to the extent needed for the construction of the station. The terms of the United States easement over 6.32 acres of the Greens Scenic Area easement will remain unchanged. The City will convey to the United States, in fee, the remaining 7.24 acres of the Greens Scenic Area easement, unless Environmental Site Assessments to be conducted in accordance with the Net Benefits Agreement determine that such land is contaminated and unable to be accepted by NPS, in which case a parcel or parcels of equal appraised fair market value mutually agreeable to the City and NPS will be exchanged. Within 120 days of execution of the ROD by FTA and the ROD by NPS, assuming the decisions in those RODs are consistent with the Net Benefits Agreement, the City and NPS shall enter into a land exchange agreement that will designate the specific parcels to be exchanged, and provide the terms, conditions, and process by which the land exchange shall occur;
- Impose limitations on height and other restrictions on items such as materials, signage, and lighting on portions of North Potomac Yard adjacent to the GWMP via ordinance. In addition, the City of Alexandria will seek an agreement, if possible, with the property owner to establish the restrictions on heights, signage and lighting as legally binding covenants or easements;
- Work to ensure that the design of the Potomac Yard Metro Station and related landscaping, including planting, plant selection and berms, will be done in a manner that mitigates the visual impact of the station on the GWMP and includes NPS as a participant in the design process;
- Work with WMATA to develop a design-build process that enables a higher level of City of Alexandria involvement with specific high-visibility elements of the station, and incorporates NPS participation into this process;
- In cooperation with WMATA, develop potential alternative construction staging locations that minimize or avoid the use of the GWMP to the extent reasonably practicable (refinements have been included in the design of the Preferred Alternative for the Final EIS);

- Provide a total of \$12 million for the NPS Impact Fund Account, which was established by the July 10, 2015, Memorandum of Agreement between the National Park Service and The Conservation Fund. The funds will be used to fund appropriate compensatory mitigation projects to minimize or offset the unavoidable impacts of the Potomac Yard Metrorail Station project on natural and cultural resources within the GWMP. The funds shall be used and distributed in amounts outlined in the agreement for the following projects:
 - Preparation of a stormwater management plan for Daingerfield Island and the adjacent section of the GWMP, where there is a known stormwater issue;
 - Implementation of the stormwater management plan described above for Daingerfield Island and the adjacent section of GWMP, with a maximum project area of approximately 45 acres;
 - Preparation of a Daingerfield Island Master Plan, which will address improvements to visitor services, facilities, recreation, and park amenities;
 - Implementation of the recommendations of the Daingerfield Island Master Plan referenced herein;
 - Implementation of repairs and improvements to the Mount Vernon Trail within the City of Alexandria;
 - Vegetation survey for the south section of the GWMP (from Four Mile Run to Mount Vernon) to evaluate the number, type, size, age, and health of the existing vegetation;
 - Preparation of a GWMP Facility Management plan that will include a drainage plan; and
 - Reservation of a portion of the funds to contribute to all or some of the following projects (as determined by NPS):
 - Preparation of an updated NRHP nomination for the MVMH;
 - Preparation of a Cultural Landscape Report for the GWMP south of Alexandria to include treatment recommendations;
 - Implementation of treatment recommendations based on the findings of the Cultural Landscape Report for the GWMP (Virginia Tech, 2009) and the Cultural Landscape Report for GWMP south of Alexandria;
 - Invasive plant management, restoration planting, and monitoring efforts for GWMP within the vicinity of the project area and south of Alexandria;
 - Preparation of an Archeological Overview and Assessment of the GWMP south of Alexandria;
 - Completion of a Viewshed Protection Plan to include a viewshed inventory and assessment of the south section George Washington Memorial Parkway north and south of Alexandria;
 - Completion of a Visitor Use Survey and Visitor Use Management Plan for the entire GWMP; and
 - Preparation of a Resource Stewardship Strategy for the entire GWMP.

To minimize the impacts to visual resources, measures would be implemented as part of the Section 106 MOA and Net Benefits Agreement between the City of Alexandria and NPS as discussed above. Relevant to visual resources, measures that would be implemented in coordination with the Section 106 MOA requirements include:

- Develop and implement a landscape/vegetation/planting plan which will serve as a visual buffer to the proposed station and is consistent with NPS Cultural Landscape Reports for MVMH and GWMP.
- Refine station design, building materials, and lighting fixtures to minimize impacts.

Provisions from the Net Benefits Agreement for the GWMP relevant to visual resources include:

- Impose limitations on height and other restrictions on items such as materials, signage, and lighting on portions of North Potomac Yard adjacent to the GWMP.
- As described above, provide a total of \$12 million for the NPS Impact Fund Account, to be distributed to various projects in amounts outlined in the agreement.

8.1.2 Potomac Greens Park

The three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option would use Potomac Greens Park. Permanent use of Potomac Greens Park varies by Build Alternative, with Build Alternative A using about four percent, B-CSX using less than one percent, Build Alternative B Option 1 Construction Access using about 12 percent, the Preferred Alternative (Build Alternative Option 2 Construction Access) using about 12 to 13 percent, and Build Alternative D using about six percent before mitigation.

The three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option would temporarily occupy portions of Potomac Greens Park. Temporary occupancy of Potomac Greens Park varies by Build Alternative, with Build Alternative A Option 1 Construction Access temporarily occupying about 11 percent, Build Alternative A Option 2 Construction Access temporarily occupying about eight percent, Build Alternative B Option 1 Construction Access occupying about 17 percent, the Preferred Alternative (Build Alternative Option 2 Construction Access) occupying about 20 to 21 percent, B-CSX Design Option occupying less than one tenth of a percent, and Build Alternative D occupying about two percent before mitigation.

Build Alternative A would require the permanent use of 0.71 acre along the western boundary of the park and would be used for the station platform and facilities. Build Alternative A Option 1 Construction Access would require the temporary occupancy of 2.30 acres of Potomac Greens Park. Temporary occupancy of Potomac Greens Park would be necessary to provide an access road for construction vehicles and a staging area for construction equipment. The access road through Potomac Greens Park would be located on the western border of the park, and would connect to entry and exit driveways along the GWMP to the station location. Construction staging would require the removal of existing vegetation bordering the Metrorail tracks, an existing open area, trees, a pedestrian path, and fencing of Potomac Greens Park. Build Alternative A Option 2 Construction Access would require the temporary occupancy of 1.61 acres of Potomac Greens Park. Temporary occupancy of Potomac Greens Park would be necessary to provide a staging area for construction equipment. Construction staging would require the removal of existing vegetation bordering the Metrorail tracks, an existing open area, trees, a pedestrian path, and fencing of Potomac Greens Park.

Build Alternative B Option 1 Construction Access requires the permanent use of 2.54 acres of Potomac Greens Park to accommodate a part of the station platform and facilities, along the western boundary of the park. Temporary occupancy of Potomac Greens Park would be necessary to provide a staging area for construction equipment. Construction of the proposed station would remove 3.43 acres of existing vegetation along the western boundary of Potomac Greens Park, including trees that provide a visual buffer to the CSXT tracks and Potomac Yard from Potomac Greens Park.

The Preferred Alternative (Build Alternative B Option 2 Construction Access) requires the permanent use of 2.54 to 2.76 acres of Potomac Greens Park to accommodate a part of the station platform and facilities, along the western boundary of the park. Temporary occupancy of Potomac Greens Park would be necessary to provide a staging area for construction equipment. Under the Preferred Alternative, construction of the proposed station would remove 4.10 to 4.33 acres of existing vegetation along the western boundary of Potomac Greens Park, including trees that provide a visual buffer to the CSXT tracks and Potomac Yard from Potomac Greens Park. To ensure safe conditions along the construction access route from the northern end of Potomac Greens neighborhood into Potomac Greens Park, the project proposes temporarily relocating or closing the park's playground, the boardwalk trail, and northern end of the Carpenter Road trail for the duration of construction.

B-CSX Design Option would require the permanent use of 0.10 acre along the western boundary of Potomac Greens Park and would be used for the realigned WMATA track. Construction staging would require the removal of existing vegetation bordering the Metrorail tracks, trees, and fencing of Potomac Greens Park totaling 0.10 acre.

Build Alternative D requires the permanent use of 1.21 acres of Potomac Greens Park to accommodate the new aerial track configuration, mainly on the western boundary of the park, including parkland between the existing track alignment and Potomac Greens Drive. A portion of the pedestrian bridges would be located within the park boundaries. Construction of the proposed station would remove 0.40 acre of existing vegetation along the western boundary of Potomac Greens Park, including trees that provide a visual buffer to the CSXT tracks and Potomac Yard from Potomac Greens Park.

The three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option would impact views from Potomac Greens Park due to the introduction of new visual elements and removal of vegetation for construction access and staging areas. New visual elements include the stations and pedestrian bridges for all Build Alternatives, the Preferred Alternative, B-CSX Design Option, and the elevated track and structures required for Build Alternative D.

Several potential measures are proposed to mitigate permanent and temporary uses to Potomac Greens Park. The permanent use of Potomac Greens Park would be mitigated by redesigning park facilities as necessary in conjunction with the replacement of park infrastructure. Alterations to Potomac Greens Park would require an amendment to its respective DSUP. Since the Greens Scenic Area easement is located within Potomac Greens Park, the City of Alexandria and NPS would develop landscape and visual screening plans consistent with the *Vegetation Cultural Landscape Report*. The project would also replace any park amenities and landscaping that are removed or displaced due to any permanent use by following a new landscaping planting strategy that is consistent with the historic character and design principles of the GWMP, as documented in the *Mount Vernon Memorial Highway Cultural Landscape Report*, Vol. I, p. 72-74 (NPS, 1987). Adding new landscaping to Potomac Greens Park would provide a visual buffer to the proposed station. Landscape mitigation measures would be consistent with the terms of the scenic easement, as well as provide potential mitigation for impacts to the easement. Additional efforts include the restoration of disturbed areas to prior conditions through construction restoration, landscaping, and vegetation plans.

The ability to mitigate impacts to the Potomac Greens Park is based on consultation with the officials with jurisdiction over the resource.

8.1.3 Greens Scenic Area Easement

Build Alternative B (including the Preferred Alternative) would require the permanent use of the Greens Scenic Area easement for the realigned track. Build Alternative B Option 1 Construction Access would use about 11 percent and the Preferred Alternative (Build Alternative B Option 2 Construction Access) would use about 11 to 13 percent. Build Alternatives A and D and B-CSX Design Option would not require any permanent use of the easement.

The three Build Alternatives (including the Preferred Alternative) would use portions of the Greens Scenic Area easement for temporary construction activities. Uses of the Greens Scenic Area easement varies by Build Alternative, with Build Alternatives A (both options) and D temporarily occupying about one percent and Build Alternative B (both options, including the Preferred Alternative) occupying up to about 20 percent before mitigation. B-CSX Design Option would not use the easement.

Build Alternative A would not require the permanent use of the Greens Scenic Area easement. Build Alternative A Option 1 Construction Access would require the use of 0.25 acre of the Green Scenic Area easement. Use related to construction activities of the Greens Scenic Area easement would be necessary to provide an access road for construction vehicles and a staging area for construction equipment. The access road through Greens Scenic Area easement would be located on the western border of the easement, and would connect to entry and exit driveways along the GWMP to the station location. Construction staging would require the removal of existing vegetation bordering the Metrorail tracks, an existing open area, trees, a pedestrian path, and fencing of the Greens Scenic Area easement. Build Alternative A Option 2 Construction Access would require the use of 0.13 acre of the Green Scenic Area easement for temporary construction activities. Use of the Greens Scenic Area easement would be necessary to provide a staging area for construction equipment. Construction staging would require the removal of existing vegetation bordering the Metrorail tracks, an existing open area, trees, a pedestrian path, and fencing of the Greens Scenic Area easement.

Build Alternative B Option 1 Construction Access requires the permanent use of 1.71 acres of the Greens Scenic Area easement to accommodate a part of the station platform and facilities, along the western boundary of the easement. Use of the Greens Scenic Area easement would also be necessary to provide a staging area for construction equipment. Construction would require the removal of trees from 3.09 acres of the Greens Scenic Area easement that are intended to protect views from the GWMP.

The Preferred Alternative (Build Alternative B Option 2 Construction Access) requires the permanent use of 1.71 to 1.94 acres of the Greens Scenic Area easement to accommodate a part of the station platform and facilities, along the western boundary of the easement. Use of the Greens Scenic Area easement for temporary construction activities would be necessary to provide a staging area for construction equipment. Construction would require the removal of trees from 2.86 to 3.09 acres of the Greens Scenic Area easement that are intended to protect views from the GWMP.

B-CSX Design Option would not require the permanent use or temporary occupancy of the Greens Scenic Area easement.

Build Alternative D would not require the permanent use of the Greens Scenic Area easement. Construction of the proposed station would use 0.02 acre of the Greens Scenic Area easement, including trees that provide a visual buffer to the CSXT tracks and Potomac Yard from Potomac Greens Park.

Several potential measures are proposed to mitigate uses and temporary construction activities to the Greens Scenic Area easement. Since Build Alternative B, including the Preferred Alternative, requires the permanent use of the Greens Scenic Area easement administered by NPS, the use of the easement requires a new easement by NPS, which would require equal value exchange in property or interest in property as required by Federal law mitigation (54 U.S.C. 102901). The project would also replace any park amenities and landscaping that are removed or displaced due to any permanent use by following a new landscaping planting strategy that is consistent with the historic character and design principles of the GWMP, as documented in the *Mount Vernon Memorial Highway Cultural Landscape Report*, Vol. I, p. 72-74 (NPS, 1987). Adding new landscaping to the Greens Scenic Area easement would provide a visual buffer to the proposed station. Landscape mitigation measures would be reviewed and approved by NPS.

Temporary construction mitigation efforts for Build Alternatives A, Build Alternative B Option 1 Construction Access, the Preferred Alternative (Build Alternative B Option 2 Construction Access), and Build Alternative D require a construction permit as agreed to with NPS. Additional efforts include the restoration of disturbed areas to prior conditions through construction restoration, landscaping, and vegetation plans as agreed to with NPS.

For the Preferred Alternative, the ability to mitigate impacts to the Greens Scenic Area easement is based on measures that would be implemented as part of the Net Benefits Agreement between the City of Alexandria and NPS and ongoing consultation with the City of Alexandria and NPS during the design process.

8.1.4 Rail Park

The three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option would impact the planned Rail Park. Permanent use of the planned Rail Park varies by Build Alternative, with Build Alternative A (both options) permanently using less than one-hundredth of a percent and Build Alternative D using about 37 percent of the park before mitigation. Build Alternative B Option 1 Construction Access, the Preferred Alternative (Build Alternative B Option 2 Construction Access), Build Alternative B (both options) and B-CSX Design Option would not have any permanent use of the planned Rail Park. The three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option would also temporarily occupy the planned Rail Park, with Build Alternatives A and D each temporarily occupying about forty percent of the park, the Preferred Alternative (Build Alternative B Option 2 Construction Access) temporarily occupying about 100 percent of the park, and Build Alternative B Option 1 Construction Access and B-CSX Design Option each temporarily occupying about 23 percent of the park before mitigation.

Build Alternative A requires the permanent use of less than 0.01 acre of the planned Rail Park along the northern boundary of the park just outside the Metrorail Reservation easement, which is necessary to maintain a 20-foot setback from the station facilities. Build Alternative D requires the permanent use of 1.55 acres of parkland along the eastern boundary, which is necessary to accommodate aerial structures for the new track alignment. Build Alternative A would also require the removal of 1.79 acres and Build Alternative D would require the removal of 1.71 acres of vegetation to accommodate construction staging. Build Alternative B Option 1 Construction Access would require the removal of 0.96 acre of vegetation for construction access and staging. The Preferred Alternative would temporarily occupy 4.21 acres of the planned Rail Park to accommodate construction contracting offices at this location rather than at the northern end of the Potomac Greens neighborhood, thereby reducing vehicular traffic along Potomac Greens Drive by construction employees. Construction access and staging would require the removal of the existing vegetation and ground leveling of the site for use as a construction staging area. B-CSX Design Option would require the removal of 0.96 acre of vegetation for construction access and staging.

Several measures are proposed to mitigate permanent and temporary uses of the planned Rail Park. Permanent use mitigation measures would include replacing any park amenities that were removed or displaced due to any permanent use. Temporary construction mitigation efforts would include restoring disturbed areas to existing conditions through construction restoration, landscaping, and vegetation plans as agreed to with the City of Alexandria.

The ability to mitigate all impacts to the planned Rail Park is a result of consultation with the official with jurisdiction, the City of Alexandria. It should also be noted that the City of Alexandria has stated that the planned Rail Park would likely not be constructed until after the completion of the project.

8.1.5 Factor 1 Conclusion

Most, but not all impacts to Section 4(f) resources could be effectively mitigated under most alternatives. The principal impacts that could not be fully mitigated would be impacts to the GWMP, MVMH, and PNCR for Build Alternatives A Option 1 Construction Access, Build Alternative B Option 1, Construction Access, and Build

Alternative D, because these alternatives would require construction access from the GWMP and a net benefits agreement between NPS and the City of Alexandria has not been reached for these alternatives to mitigate their impacts.

Adverse impacts to Section 4(f) resources can be effectively mitigated under the Preferred Alternative as a result of a Net Benefits Agreement between the City of Alexandria and NPS. In addition to mitigation, there would be net benefits to Section 4(f) resources from the Preferred Alternative described in **Section 8.1.1**.

8.2 Factor 2: Relative Severity of the Remaining Harm after Mitigation

Factor 2 analyzes the severity of the remaining harm to each Section 4(f) resource after measures to avoid, minimize, and mitigate would be implemented. Where all uses to a particular Section 4(f) resource can effectively be mitigated, the absence of remaining harm is a key consideration. Where uses that cannot be mitigated are proposed, a determination is required of whether the impacts are significant within the context of the purpose, goals, plans, and other resource management objectives for the particular Section 4(f) resource. All uses are not treated alike and are evaluated in this analysis within the context of each resource for each alternative.

8.2.1 GWMP, MVMH, and PNCR

Mitigation measures are proposed to mitigate the impact to the uses of the GWMP, MVMH, and PNCR as described in **Section 8.1.1**. Most impacts to the GWMP, MVMH, and PNCR would be fully mitigated; however, the Build Alternatives would result in some lasting visual impacts on the GWMP and MVMH even after mitigation through station design refinements and landscaping. Mitigation measures proposed for the Preferred Alternative would result in a net benefit to the GWMP, MVMH, and PNCR. Measures include removal of invasive species that impair the vegetated landscape along the Parkway, improvements to Daingerfield Island in Alexandria and the nearby Mount Vernon Trail, which are used extensively by City residents, as well as measures to enhance the experience of Parkway users such as eliminated stormwater ponding in the median of the GWMP and additional landscaping between the station and the GWMP roadway. The ability to mitigate impacts to the GWMP and MVMH are based on measures that would be implemented as part of the Section 106 Memorandum of Agreement (MOA) and Net Benefits Agreement between the City of Alexandria and NPS.

8.2.2 Potomac Greens Park

Mitigation measures are proposed to mitigate permanent and temporary uses of Potomac Greens Park as described in **Section 8.1.2**. Under the Preferred Alternative, all impacts to Potomac Greens Park would be fully mitigated and result in no remaining harm, except for the visual resource impact. The ability to mitigate impacts to the Potomac Greens Park is based on measures that would be implemented by the City of Alexandria through its DSUP process as well as with NPS through the Net Benefits agreement for the portions of the park within the Greens Scenic Area easement.

8.2.3 Greens Scenic Area Easement

Mitigation measures are proposed to mitigate uses of the Greens Scenic Area easement as described in **Section 8.1.3**. Under the Preferred Alternative, impacts to the Greens Scenic Area easement would be mitigated as specified in the Net Benefits Agreement between the City of Alexandria and NPS.

8.2.4 Rail Park

Mitigation measures are proposed to mitigate the temporary occupancy of the planned Rail Park as described in **Section 8.1.4**. All impacts to the planned Rail Park would be fully mitigated and result in no remaining harm. The ability to mitigate impacts to the planned Rail Park is based on consultation with the official with jurisdiction, the City of Alexandria.

8.2.5 Factor 2 Conclusion

After mitigation, there would be remaining visual impacts on the GWMP, MVMH, PNCR, and the Potomac Greens neighborhood related to vegetation removal for the construction of project facilities from the three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option. Other than the visual impacts, the three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option would result in no remaining harm to other Section 4(f) resources. The Preferred Alternative (Build Alternative B Option 2 Construction Access) would result in a net benefit to the GWMP, MVMH, PNCR, and Greens Scenic Area easement.

8.3 Factor 3: Relative Significance of Each Section 4(f) Property

This factor does not address the use of each Section 4(f) resource but rather is intended to help assess whether certain Section 4(f) resources are of greater significance than others. This analysis is necessarily qualitative and requires an element of judgment, since it requires comparing unlike resources and their relative and comparative value to the community.

Understanding how the City of Alexandria and NPS value their respective resources is useful for this analysis. Each resource that would potentially be affected by the project has a unique function and value. While the City of Alexandria, Arlington County, and NPS have formally indicated each affected park is significant (and therefore eligible for protection under Section 4(f)), the relative significance of each resource is not the same.

8.3.1 George Washington Memorial Parkway

As described in detail in **Section 4.1.2**, the GWMP is a Section 4(f) resource of national significance. The GWMP was authorized by an Act of Congress and incorporated the MVMH. The Capper-Cramton Act appropriated Federal funds to the National Capital Park and Planning Commission for the expeditious, economical and efficient development and completion, among other projects, the GWMP to include the shores of the Potomac, and adjacent lands, from Mount Vernon to a point above Great Falls, VA. The Parkway is listed in the NRHP (NRHP #95000605). The GWMP also serves as a memorial to George Washington, as the Parkway was conceived as a route between his home at Mount Vernon and the Potowmack Canal in Great Falls, Virginia. The Parkway provides scenic vistas, contains numerous historic and archeological resources, and “serves as a quality entryway into Washington, D.C.” and is “an instrument of conservation and protection of scenic and recreational values.”² The Parkway is also of a high recreational value, because it provides trail connections and numerous recreational facilities, including the Mount Vernon Trail, Daingerfield Island, and Washington Sailing Marina.

8.3.2 Mount Vernon Memorial Highway

As described in detail in **Section 4.1.1**, the MVMH is a Section 4(f) resource of national significance. The MVMH was authorized by an Act of Congress to connect Mount Vernon, the home and burial place of George Washington, with Washington, DC. As the first parkway built and maintained by the U.S. government and the first segment completed as part of the GWMP, the MVMH is nationally significant and is listed in the NRHP (NRHP #81000079). The purpose of the MVMH as a commemorative pilgrimage route is its most significant historic characteristic. Integral to its character and significance, numerous national monuments, historic sites, parks, and other landscaped green spaces are visible along the corridor. Linking George Washington’s former home, Mount Vernon in Fairfax County with the Arlington Memorial Bridge, the 15.2-mile MVMH segment was designed and landscaped to maximize scenic, aesthetic and commemorative qualities.

8.3.3 Parkways of the National Capital Region

As described in detail in **Section 4.2.2**, the PNCR is a historic Section 4(f) resource. The PNCR, which includes both the MVMH and GWMP, is a collection of landscaped parkways that serve as a link among the parks, monuments, and suburbs of the national capital region. The parkways remain vital components of the regional transportation arteries and contribute to the historic symbolism and design of the nation’s capital.

8.3.4 Potomac Greens Park

As described in **Section 4.1.3**, Potomac Greens Park is a locally significant park. Potomac Greens Park is of moderate recreational value, because it provides amenities including a playground, seating area, an open grassy area, and a wooded area with trails. Within the Potomac Greens Park boundary, the Greens Scenic Area easement is maintained by NPS.

8.3.5 Greens Scenic Area Easement

As described in **Section 4.1.4**, Greens Scenic Area easement is administered by NPS. The easement prohibits most improvements, clearing, and grading, except for uses such as light passive recreation and underground utilities. The easement is in place to restrict development, and preserve the natural habitat and vegetation, and thereby support the visual quality of the GWMP and the MVMH. The Greens Scenic Area easement is to conserve and preserve the natural vegetation, topography, habitat, and other natural features existing on the parcel. The Green Scenic Area easement is a recorded Federal land interest and runs with the land in perpetuity for the sole benefit of the United States and successors. Due to the function of the easement, the Greens Scenic Area easement is nationally significant in the supportive role of enhancing the Parkway. While historically not a

² National Park Service. April 1995. *National Register of Historic Places Nomination Form, George Washington Memorial Parkway*.

part of the MVMH or GWMP, the Greens Scenic Area easement was determined eligible for listing in the NRHP as a contributing resource on March 17, 2015 by the Keeper of the National Register, due to its historic scenic qualities that contribute to the original design of the roadway and its landscape.

8.3.6 Rail Park (Planned)

As described **Section 4.1.5**, Rail Park is a locally significant park. The park would be located between the CSXT tracks and Metrorail tracks and has minimal access points. The recreational value for the park is low, because the park is planned for passive open space as determined by the City. An existing Metrorail service drive will be maintained and possibly used as vehicular service access for the park. In comparison to the other impacted Section 4(f) resources, Rail Park has no national significance or historic value associated with the resource.

8.3.7 Factor 3 Conclusion

This factor provides insights about the relative significance of each Section 4(f) resource. The GWMP and the MVMH are the only resources within the study area of national significance authorized by acts of Congress. The PNCR, which includes the GWMP and MVMH, is a regionally significant historic resource. The Greens Scenic Area easement (within Potomac Greens Park) supports the preservation of the GWMP and the MVMH and was determined eligible for listing in the NRHP as a contributing resource to the GWMP and MVMH. The planned Rail Park has no national significance or historic value.

8.4 Factor 4: Views of the Official(s) with Jurisdiction over Each Section 4(f) Property

The purpose of this factor is to help provide a basis for judging the relative importance of each Section 4(f) resource and the relative significance of potential impacts to these resources based on the jurisdiction's point of view. Three entities have jurisdiction over the Section 4(f) resources that would be potentially affected by the project: the City of Alexandria, NPS, and VDHR. The following analysis explains positions that these agencies have taken with regard to the potentially affected resources providing insights on how to integrate the views of these jurisdictions into this Section 4(f) analysis.

8.4.1 City of Alexandria

As the local project sponsor, the City of Alexandria has been intimately involved in the development of the project in a manner that both meets the Potomac Yard Metrorail Station Project purpose and also respects the City's planning goals. Since the City has been deeply involved in evaluating and selecting alternatives, the City's views on the Preferred Alternative for the project are important because they reflect the City's own balance of competing needs and goals.

Build Alternative B Option 2 Construction Access as described in the Draft EIS was selected by the City of Alexandria as the Preferred Alternative for the Potomac Yard Metrorail Project. As documented in Alexandria City Council Resolution 2676, the council selected Build Alternative B because it regarded it the best alternative for supporting the high-density mix of uses envisioned for North Potomac Yard, supporting adjacent communities, and to realizing the transportation, economic development, and fiscal benefits of the project to the community.

The City Council's decision came after review of the *Potomac Yard Metrorail Station: Staff Recommendation for the Preferred Alternative* (April 24, 2015) report. The City staff's report recommended the selection of Build Alternative B Option 2 Construction Access, because the station would help accommodate growing transportation demand in the Route 1 corridor and would provide additional benefits to the City and region by:

- Maximizing the number of people taking transit to and from the Potomac Yard area by providing direct access to Metrorail;
- Removing thousands of cars from the Route 1 corridor every day;
- Enabling a mix of uses in an environment where people can walk or bike to destinations in Potomac yard for their daily needs;
- Providing a vibrant destination for city residents with a mix of uses, including significant shopping and public parks; and
- Strengthening and diversifying the tax base to improve the long-term economic stability of the City by enabling additional office development within Potomac Yard.

The City Staff's report also noted that the *North Potomac Yard Small Area Plan* allows the most density of development if Build Alternative B is constructed. The Build Alternative B station would be located within ¼ mile of

most of the development and creates the best opportunity for smart growth and a walkable, compact, urban community. The City Staff's report concluded that Build Alternative B best balances land use and transportation, is consistent with city plans, and places the station in the best location to serve the largest number of potential Metrorail riders.

It is important to note that the City Staff's report acknowledges that the Preferred Alternative would have impacts to Section 4(f) resources but stated that these impacts could be mitigated through a net benefits agreement with NPS.

8.4.2 NPS

NPS is a cooperating agency due to the potential for project impacts to the GWMP and the adjacent Greens Scenic Area easement administered by NPS. NPS has worked collaboratively with the City of Alexandria, FTA, and WMATA throughout the environmental review process. Early in the process, NPS made it clear they had serious concerns about the amount of disturbance to park resources proposed by construction access through a known wetland and about the duration of closures necessary for construction vehicle use of the Parkway roadway associated with the original Build Alternative B. Due to their early involvement, construction access options avoiding the GWMP were developed and evaluated in the Draft EIS.

In a letter dated November 20, 2014, NPS stated that both Build Alternatives A and B were viable, provided the City and NPS agree on appropriate mitigation measures to NPS parkland associated with Build Alternative B that would yield in a net benefit to the GWMP. In a follow up letter dated April 20, 2015, NPS stated its belief that the full implementation of the mitigations package described in the letter would sufficiently mitigate the loss of park and easement land and the impacts to park resources under the Preferred Alternative (Build Alternative B Option 2 Construction Access).

It is important to note that NPS acknowledges that the Preferred Alternative would have impacts to Section 4(f) resources but stated that most, but not all, of these impacts could be mitigated through a net benefits agreement with the City of Alexandria.

8.4.3 VDHR

FTA has consulted with VDHR regarding historic resources throughout the environmental review process, starting with initiating the Section 106 process in May 2012. The GWMP, MVMH, and PNCR are all listed in the NRHP, and VDHR believes it is appropriate to preserve its existing setting and maintain the current integrity and features that support their listing in the NRHP. FTA has determined, in consultation with VDHR and the consulting parties, that the project would have adverse effects to the GWMP, MVMH, and PNCR. Accordingly, a draft MOA has been prepared stipulating the appropriate mitigation measures. The MOA also describes benefits to the resources because of measures the City of Alexandria and NPS have committed to implement.

8.4.4 Factor 4 Conclusion

With the City of Alexandria as the local project sponsor and NPS as a cooperating agency, both officials with jurisdiction have been integral members of the project team throughout the environmental review process. The views of these officials with jurisdiction were incorporated in evaluating and selecting alternatives and developing avoidance, minimization, and mitigation measures for impacts to Section 4(f) resources. VDHR views the GWMP, MVMH, and PNCR as important historic resources of national significance.

All three officials with jurisdictions acknowledge the Preferred Alternative would have impacts to Section 4(f) resources but have determined most, but not all, of these impacts can be mitigated through measures that would be implemented as part of the Section 106 MOA and the Net Benefits Agreement between the City of Alexandria and NPS.

8.5 Factor 5: Degree to Which Each Build Alternative Meets Project's Purpose and Need

The purpose of the project is to improve local and regional transit accessibility to and from the Potomac Yard area adjacent to the U.S. Route 1 corridor for current and future residents, employees, and businesses.

This additional access point is needed to address existing and future travel demand in the area resulting from the City of Alexandria's planned development of Potomac Yard, which includes a major transit-oriented, mixed-use activity center in the vicinity of the proposed station.

To evaluate the extent to which each alternative supports the stated purpose and need, the following questions were considered for each alternative:

- Does the alternative improve regional transit accessibility of Potomac Yard?
- Does the alternative expand transportation choices by locating regional transit within walking distance of residents and employees of the Potomac Yard area? Walking distance was defined as ½ mile for residents (a 10-minute walk) and ¼ mile for employees (a 5-minute walk), based on industry experience.
- Does the alternative accommodate travel demand by shifting automobile trips to transit and other non-auto modes? Non-auto mode share is defined as the percentage of trips which are taken on foot, by bicycle, or using transit.
- Does the alternative support the City of Alexandria's redevelopment plans for a major mixed-use activity center in Potomac Yard?

Table 9-3 shows the results to these questions for each alternative. Because the Preferred Alternative and the three Build Alternatives and B-CSX Design Option from the Draft EIS are located in relatively close proximity to each other, they often perform similarly using these measures. In addition, each alternative's support of the overall project's purpose and need are further described and summarized in the following subsections.

Table 8-3: Support for Project Purpose and Need

Evaluation Measure	No Build Alternative	Build Alternatives				Preferred Alternative
		Alternative A	Alternative B	B-CSX Design Option	Alternative D	
Project Purpose: Improving regional transit accessibility						
Regional transit access to Potomac Yard	No	Yes	Yes	Yes	Yes	Yes
Project Need: Providing additional transportation choices for residents and workers						
Number of residents within ½ mile of regional transit station, assuming development in approved plans (2040)	0	15,200	19,800	16,700	16,500	19,800
Number of employees within ¼ mile of regional transit station, assuming development in approved plans (2040)	0	17,100	24,400	12,000	13,200	24,400
Project Need: Increasing the share of transit and other non-auto trips						
Daily automobile trips shifted to transit, assuming development in approved plans (2040)	Base	5,100	6,700	5,200	5,200	6,700
Non-auto mode share for trips in the Potomac Yard area (2040)	29%	34%	34%	34%	34%	34%
Project Need: Supporting City of Alexandria redevelopment plans						
Total Potomac Yard development volume (square feet) permitted under approved plans	9.250 million	9.250 million	13.075 million	9.250 million	9.250 million	13.075 million

Source: MWCOG Round 8.0 Cooperative Land Use Forecasts; City of Alexandria approved development volumes for Potomac Yard; and MWCOG regional travel demand model with WMATA transit post-processor application (Version 2.3, 2012).

8.5.1 Improving Regional Transit Accessibility of the Potomac Yard Area

The Preferred Alternative and the three Build Alternatives and B-CSX Design Option from the Draft EIS all support the purpose and need by constructing a new Metrorail station at Potomac Yard that would provide direct access to the regional transit system. Locating a station in Potomac Yard minimizes travel times by transit to regional destinations served by the system. Although the No Build Alternative improves connecting service to the existing Braddock Road and Crystal City Metrorail Stations via the CCPY Transitway, the Transitway does not provide direct regional transit service to and from Potomac Yard.

8.5.2 Providing Additional Transportation Choices for Residents and Workers

The Preferred Alternative and the three Build Alternatives and B-CSX Design Option would serve planned population and employment growth in the Potomac Yard area by providing an additional transportation option, regional transit, for residents, employees, and visitors to the area. The majority of the new development within Potomac Yard would be within walking distance of the Metrorail station under each of the Build Alternatives and B-CSX Design Option. However, Build Alternatives B and D would be located farther north than Build Alternative A and, therefore, would be closer to North Potomac Yard, which is where the densest development is planned within the Potomac Yard area. Based on the maximum allowable development, the Preferred Alternative, located in the same area as Build Alternative B, would be within walking distance of the highest number of residences, as well as offices, shopping, and entertainment destinations. The Preferred Alternative would enable significantly more office use with a greater percentage of the planned office area located within a ¼ mile walk of the proposed station location. Although Build Alternative D would be located the farthest north and west, it would occupy land that is currently planned for development, thereby reducing the development potential of North Potomac Yard and resulting in lower levels of development within walking distance of the station. B-CSX Design Option would have a similar location and effect on development within walking distance of the station as Build Alternative D.

8.5.3 Increasing the Share of Transit and Other Non-Auto Trips

The Preferred Alternative and Build Alternative B would reduce automobile trips with an origin or destination in Potomac Yard by approximately 6,700 trips. Build Alternatives A and D and B-CSX Design Option would reduce these automobile trips by approximately 5,000 daily trips. B-CSX Design Option is assumed to have a similar diversion of auto trips to transit as Build Alternative D based on its similar location within Potomac Yard and the associated development volume. The non-automobile mode share in Potomac Yard is projected to be 34 percent for the Preferred Alternative as well as any of the three Build Alternatives and B-CSX Design Option from the Draft EIS. For the No Build Alternative, the non-automobile mode share is projected to be 29 percent.

8.5.4 Supporting City of Alexandria Redevelopment Plans

In regards to estimating ridership, a constant level of development was assumed in North Potomac Yard for each alternative (9.250 million square feet). However, as shown in **Table 9-3**, current City plans and zoning allow up to 13.075 million square feet of development if a station is constructed in the vicinity of the Preferred Alternative and Build Alternative B. Under approved plans and zoning, 9.250 million square feet of development would be allowed under Build Alternative A, Build Alternative D, or B-CSX Design Option. B-CSX Design Option would require the use of 5 acres of land in North Potomac yard that is currently available for development. It would therefore reduce the amount of development possible in North Potomac Yard.

8.5.5 Factor 5 Conclusion

The three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option each address the project's overall purpose and need. The Preferred Alternative and each Build Alternative would improve the accessibility of the Potomac Yard area and would establish a new access point to the regional Metrorail system. The Preferred Alternative, each of the Build Alternatives and B-CSX Design Option differ in regards to the overall number of employees and residents they would each serve and the development levels allowed under each alternative. The Preferred Alternative would maximize the amount of development permitted in North Potomac Yard and would accommodate the highest daily ridership among the three alternatives. Build Alternative A, Build Alternative D, and B-CSX Design Option provide less ridership than the Preferred Alternative and less development space than the Preferred Alternative.

8.6 Factor 6: Magnitude of Any Adverse Impacts to Resources Not Protected by Section 4(f) After Reasonable Mitigation

This factor addresses unavoidable environmental impacts to resources not protected by Section 4(f) after implementing mitigation measures. When mitigation is considered, there are only relatively minor differences among the quantifiable impacts of the Preferred Alternative, the three Build Alternatives and B-CSX Design Option. The primary unavoidable impacts that cannot be completely mitigated are related to visual resources.

8.6.1 Visual Resources

After mitigation efforts, the Preferred Alternative, all three Build Alternatives, and B-CSX Design Option would have impacts to visual resources. For the Preferred Alternative and all three Build Alternatives, station facilities would still be visible after landscaping and vegetation plans are implemented.

8.6.1.1 Build Alternative A

Build Alternative A would have adverse visual effects for the existing South Potomac Yard and Potomac Greens neighborhoods. Build Alternative A would have greater visual impacts than the other Build Alternatives and Design Option to views from South Potomac Yard and Potomac Greens due its height and close proximity to these neighborhoods.

8.6.1.2 Build Alternative B

The station would result in adverse effects to views from South Potomac Yard and Potomac Greens neighborhoods due to the height of the station and pedestrian access bridges. Build Alternative B would have less of a visual impact than Build Alternatives A and D and a greater impact than B-CSX Design Option for South Potomac Yard and Potomac Greens due the proximity of the station to these neighborhoods.

8.6.1.3 B-CSX Design Option

The visual effects of B-CSX Design Option to the existing South Potomac Yards and Potomac Greens would be minimal and less than the other Build Alternatives since it is located farther away from these neighborhoods.

8.6.1.4 Build Alternative D

Build Alternative D would have adverse visual effects to the existing South Potomac Yard and Potomac Greens neighborhood due to the height of the elevated station and the elevated connecting track structures located south of the proposed station. Build Alternative D would have less of a visual effect than Build Alternative A and a greater visual effect than the Preferred Alternative, Build Alternative B, and B-CSX Design Option on the South Potomac Yard and Potomac Greens neighborhoods.

8.6.1.5 Preferred Alternative

The station would result in adverse effects to views from South Potomac Yard and Potomac Greens neighborhoods due to the height of the station and pedestrian access bridges. The Preferred Alternative would have less of a visual impact than Build Alternatives A and D and a greater impact than B-CSX Design Option for South Potomac Yard and Potomac Greens due the proximity of the station to these neighborhoods.

8.6.2 Wetlands

Table 8-4 summarizes permanent wetland impacts for United States Army Corps of Engineers (USACE), NPS, and USACE/NPS regulated wetlands. Temporary construction impacts to USACE and NPS wetlands are summarized in **Table 8-5**. The listed acreages of temporary construction impacts exclude wetland acreage that would also be permanently displaced by the three Build Alternatives. Temporarily impacted wetlands would be restored after construction is completed.

All three Build Alternatives would have some impacts to wetlands and Build Alternative D would impact the two Waters of the U.S. (WOUS) identified in the northern part of the study area. B-CSX Design Option would not impact any wetlands. Mitigation includes developing a Joint Permit Application (JPA) for both permanent and temporary project-related wetland impacts in compliance with Section 404 of the Clean Water Act. The permitting process would be initiated with USACE, the Virginia Department of Environmental Quality (VDEQ), and NPS. If wetlands are deemed tidal wetlands, the permitting process would also be initiated with the Virginia Marine Resources Commission (VMRC). All NPS actions with the potential to have adverse impacts on wetlands must also comply with Director's Order 77-1. In the case where both NPS and USACE procedures apply, coordination with the appropriate USACE office will be initiated early in the process to reduce potential duplication of effort, and the JPA and NPS processes would be initiated at the design phase of the project. USACE will review the permit application for the preferred alternative. Thereafter, USACE may conduct an Alternatives Analysis to determine the Least Environmentally Damaging Practicable Alternative (LEDPA) prior to completion of the Final EIS. Furthermore, NPS will require a Statement of Findings with the Final EIS before the Record of Decision is signed. The Statement of Findings will require its own public review period.

Specific wetland mitigation quantities and types would be determined through the JPA and NPS processes for unavoidable impacts to WOUS and wetlands resulting from the Preferred Alternative. USACE, VDEQ, VMRC, and NPS would determine mitigation measures, as part of the JPA process and NPS Director's Order 77-1, where appropriate. If wetland compensation is necessary, the wetland restoration proposal will meet the compensation requirements of both the USACE and the NPS processes as well as EO 11990 for no net loss. Typical wetland mitigation measures include on-site or off-site wetland compensation according to specified ratios of acres of created or restored wetland to be provided for each acre of impacted wetland; ratios are based on the size and

function of existing wetland impacted and the type of wetland compensation (on-site, off-site, fee-in-lieu) as determined during the JPA process.

Table 8-4: Permanent Impacts to USACE and NPS Regulated Wetlands

Alternative	USACE Regulated Wetlands (acres)	USACE Other WOUS (acres)	NPS Regulated Wetlands (acres)
No Build	0.00	0.00	0.00
Build Alternative A	0.02	0.00	0.02
Build Alternative B	1.22	0.00	1.28
B-CSX Design Option	0.00	0.00	0.00
Build Alternative D	0.00	0.52	0.50
Preferred Alternative	1.22 – 1.56	0.00	1.13-1.45

Table 8-5: Temporary Impacts to USACE and NPS Regulated Wetlands

Alternative	USACE Regulated Wetlands (acres)	NPS Regulated Wetlands (acres)
No Build	0.00	0.00
Build Alternative A (Option 1 Construction Access)	0.30	0.35
Build Alternative A (Option 2 Construction Access)	0.01	0.01
Build Alternative B (Option 1 Construction Access)	3.61	3.68
Build Alternative B (Option 2 Construction Access)	3.54	3.47
B-CSX Design Option	0.00	0.00
Build Alternative D	0.41	0.48
Preferred Alternative	2.88 – 3.22	2.92 – 3.24

For the Preferred Alternative, impacts to all wetlands regulated by the U.S. Army Corps of Engineers would be mitigated through specific strategies developed in the Joint Permit Application process in accordance with the Clean Water Act. Permanent and temporary impacts to wetlands regulated by NPS would be mitigated through compensation for creation/reconstruction of wetland in the Dyke Marsh restoration project area at a 1:1 ratio (acres impacted by the project / acres created or restored). Temporarily impacted NPS regulated wetlands would be restored on-site to pre-construction conditions.

8.6.3 Factor 6 Conclusion

Regarding the factor of the magnitude of adverse impacts to non-Section 4(f) resources after reasonable mitigation, all of the alternatives would have some unavoidable impacts to visual resources. These impacts would be minimized with project mitigation, and these impacts are not major discriminators that would eliminate any one alternative from consideration.

8.7 Factor 7: Substantial Differences in Costs among Alternatives

This factor compares the relative cost differences among the alternatives and determines if a substantial cost difference exists between them. The cost of each alternative is summarized below.

8.7.1 Build Alternative A Costs

The estimated capital costs of Build Alternative A are between \$127-245 million (in 2020\$). The forecasted station fund revenues to be used to pay for the new station would be adequate to fund the construction and operation of a Metrorail station for Build Alternative A.

8.7.2 Preferred Alternative (Build Alternative B) Costs

The estimated capital costs of the Preferred Alternative are between \$160-316 million (in 2020\$). The forecasted station fund revenues to be used to pay for the new station would be adequate to fund the construction and operation of a Metrorail station for the Preferred Alternative.

8.7.3 B-CSX Design Option Costs

The estimated capital costs of B-CSX Design Option are between \$205-383 million (in 2020\$). The forecasted station fund revenues to be used to pay for the new station would be adequate to fund the construction and operation of a Metrorail station for B-CSX Design Option. For B-CSX Design Option, the cost estimate includes the relocation of CSXT tracks; potential costs for compensation of any CSXT penalties for delay of Amtrak and Virginia Railway Express (VRE) operations during construction are not included.

8.7.4 Build Alternative D Costs

The estimated capital costs of Build Alternative D are between \$297-581 million (in 2020\$). The forecasted station fund revenues to be used to pay for the new station would not be adequate to fund the construction and operation of a Metrorail station for Build Alternative D.

8.7.5 Factor 7 Conclusion

Based on the cost differences listed above, Build Alternative A and the Preferred Alternative (Build Alternative B) are within the same cost range. B-CSX Design Option and Build Alternative D have a higher cost range than Build Alternative A and the Preferred Alternative (Build Alternative B). Costs for any CSXT penalties for delay of Amtrak and Virginia Railway Express (VRE) operations as a result of B-CSX Design Option are currently unknown. In regards to this factor, a substantial cost difference between the Build Alternatives does exist, with Build Alternatives A and the Preferred Alternative (Build Alternative B) being less costly than B-CSX Design Option and Build Alternative D.

8.8 Least Overall Harm Analysis Conclusion

Table 8-6 summarizes the relative comparison of the three Build Alternatives (including the Preferred Alternative) and B-CSX Design Option under each of the seven factors considered in the Least Overall Harm assessment. In making the least harm conclusion all seven factors have been considered and weighed, as required by Section 4(f) regulation.

All three officials with jurisdictions acknowledge the Preferred Alternative would have impacts to Section 4(f) resources but have determined that most (but not all) of these impacts can be mitigated through measures that would be implemented as part of the Section 106 MOA and the Net Benefits Agreement between the City of Alexandria and NPS. The Preferred Alternative would also result in a net benefit to Section 4(f) resources and City of Alexandria residents. Moreover, the Preferred Alternative would maximize the amount of development permitted in North Potomac Yard and would accommodate the highest daily ridership among the alternatives, thereby best meeting the project's purpose and need. The Preferred Alternative, which is estimated to cost \$268 million, has the most economic, community, and transportation benefits of all the alternatives. Taking all these factors into account, the Preferred Alternative would cause the least overall harm in light of Section 4(f)'s preservation purpose.

1791 **Table 8-6: Summary of Least Overall Harm Factors**

Factor	Build Alternative A		Build Alternative B		B-CSX Design Option	Build Alternative D
	Option 1 Construction Access	Option 2 Construction Access	Option 1 Construction Access	Preferred Alternative (Option 2 Construction Access)		
Number of Section 4(f) Resources Affected	5	2	5	5	1	5
Section 4(f) Resources Affected	GWMP, MVMH, PNCR, Potomac Greens Park, and Greens Scenic Area easement	Potomac Greens Park and Greens Scenic Area easement	GWMP, MVMH, PNCR, Potomac Greens Park, Greens Scenic Area easement	GWMP, MVMH, PNCR, Potomac Greens Park, Greens Scenic Area easement	Potomac Greens Park	GWMP, MVMH, PNCR, Potomac Greens Park, and Greens Scenic Area easement
Factor 1: Ability to Mitigate	Impacts fully mitigable, except for visual resources	Impacts fully mitigable, except for visual resources	Impacts fully mitigable, except for visual resources	Impacts fully mitigable, except for visual resources and use related to construction of facilities with Section 4(f) resources	Impacts fully mitigable, except for visual resources	Impacts fully mitigable, except for visual resources
Factor 2: Severity of Remaining Harm on Section 4(f) Resources	Visual impacts would be minimized; however net benefits would not be realized.	Visual impacts would be minimized; however net benefits would not be realized.	Visual impacts would be minimized; however net benefits would not be realized.	Impacts would be minimized through measures implemented as part of 106 MOA and City-NPS agreement, resulting in net benefits to the resources.	Visual impacts would be minimized; however net benefits would not be realized.	Visual impacts would be minimized; however net benefits would not be realized.
Factor 3: Relative Significance of Section 4(f) Lands	GWMP, MVMH, and PNCR most significant	GWMP, MVMH, and PNCR most significant	GWMP, MVMH, and PNCR most significant	GWMP, MVMH, and PNCR most significant	GWMP, MVMH, and PNCR most significant	GWMP, MVMH, and PNCR most significant
Factor 4: Views of the Officials	NPS stated construction access from the GWMP would not be permitted. City of Alexandria stated this alternative would impact the existing Potomac Yard Park more than	NPS stated this alternative would be viable. City of Alexandria stated this alternative would impact the existing Potomac Yard Park more than the other alternatives.	NPS stated construction access from the GWMP would not be permitted	City of Alexandria selected this as the Preferred Alternative; Discussions are ongoing with NPS and VDHR regarding mitigation measures that would be implemented as part of the	Due to other factors such as cost, relocating CSXT tracks (which CSXT has not agreed to), 3 year delay in project schedule, displacement of a business, impact to rail operations, and the reduction in available	The City of Alexandria stated the elevated guideway would negatively affect views from the GWMP and would reduce functionality of Potomac Yard Park

Factor	Build Alternative A		Build Alternative B		B-CSX Design Option	Build Alternative D
	Option 1 Construction Access	Option 2 Construction Access	Option 1 Construction Access	Preferred Alternative (Option 2 Construction Access)		
	the other alternatives			Section 106 MOA and Net Benefits Agreement between the City and NPS.	developable land, the City of Alexandria opposed this option	
Factor 5: Ability to Meet Purpose and Need	Addresses both aspects of the project's purpose and need; less ridership and development than Alternative B	Addresses both aspects of the project's purpose and need; less ridership and development than Alternative B	Addresses both aspects of the project's purpose and need; maximizes ridership and development	Addresses both aspects of the project's purpose and need; maximizes ridership and development	Addresses both aspects of the project's purpose and need; less ridership and development than Alternative B	Addresses both aspects of the project's purpose and need; less ridership and development than Alternative B
Factor 6: Magnitude of Impacts on non-Section 4(f) Resources	Adverse impacts on visual resources and wetlands	Adverse impacts on visual resources and wetlands	Adverse impacts on visual resources and wetlands	Adverse impacts on visual resources and wetlands	Adverse impacts on visual resources	Adverse impacts on visual resources, wetlands, and WOUS
Factor 7: Substantial Difference in Cost	Within lower cost range (\$127-245 million)	Within lower cost range (\$127-245 million)	Within lower cost range (\$160-316 million)	Within lower cost range (\$160-316 million)	Within higher cost range (\$205-383 million); unknown CSXT penalty costs	Higher cost range (\$297-581); results in shortfall

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9.0 COORDINATION AND CONSULTATION

The lead Federal agency, project sponsor, and cooperating and participating agencies all have defined opportunities for meaningful participation in the decision-making process for the project, including review and comment on the Section 4(f) evaluation. These activities are outlined in **Table 9-1**.

FTA is the lead Federal agency and the City of Alexandria is the project sponsor and joint lead agency for the proposed Potomac Yard Metrorail Station. NPS, maintains the GWMP, is a cooperating agency for this project. Pursuant to 40 CFR 1501.6, cooperating agencies are those governmental agencies specifically requested by FTA to participate during the environmental evaluation process for the project. Cooperating agencies are responsible for:

- Reviewing the EIS for sufficiency;
- Providing comments on the purpose and need;
- Providing comments on the impact assessment methodologies, and
- Providing comments on the range of alternatives.

VDHR and the Arlington County Department of Environmental Services (DES) are participating agencies for this project. Participating agencies are Federal and non-Federal governmental agencies that may have an interest in the project, and are formally invited to participate in the environmental review of the project. These agencies are responsible for the following:

- Participating in the scoping process;
- Providing comments on purpose and need, methodologies, and the range of alternatives;
- Identifying any issues of concern regarding the project's environmental or socioeconomic impacts; and
- Providing meaningful and timely input on unresolved issues.

NPS and the City of Alexandria are considered officials with jurisdictions in terms of Section 4(f) regulations. FTA has coordinated with NPS and the City of Alexandria during the entirety of the Section 4(f) evaluation. 23 CFR 774.5 states that prior to making Section 4(f) approvals, the Section 4(f) evaluation shall be provided for coordination and comment to the official(s) with jurisdiction. FTA is responsible for soliciting and considering the comments of official(s) with jurisdiction over the Section 4(f) property, as part of the administration of Section 4(f). The regulations require that the official(s) with jurisdiction:

- Have been consulted over the findings;
- "Have not objected" to applying exceptions for the restoration, rehabilitation, or maintenance of historic transportation facilities or for archeological sites of minimal value for preservation in place.
- Have provided written concurrence in finding there are no adverse effects prior to making *de minimis* impact findings or in applying the exception for temporary occupancies, transportation enhancement activities, and mitigation activities.

The Section 4(f) evaluation must be submitted to the officials with jurisdiction over the Section 4(f) resources and to the Department of the Interior. Invitation letters were sent to potential cooperating and participating agencies on January 25, 2011.

FTA sent a letter regarding Section 106 of the National Historic Preservation Act as it relates to the project to VDHR on May 10, 2012. The letter included information about the project, preliminary results of background research, and a map of the preliminary area of potential effect. In September 2012, FTA sent invitations to potential consulting parties. Parties that accepted the invitation as a consulting party include:

- Alexandria Federation of Civic Associations
- Alexandria Historical Restoration and Preservation Commission
- Alexandria Historical Society
- Arlington County
- City of Alexandria
- Lynhaven Civic Association
- National Park Service
- North East Citizens Association

- Old Town Business and Professional Association
- United State Army Corps of Engineers

Meetings with consulting parties to discuss Section 106 coordination took place on February 20, 2013, March 27, 2013, and November 19, 2015. Section 106 correspondence and a copy of an agency invitation letter are provided in **Appendix F** of the Potomac Yard Metrorail Station Draft EIS Volume I. FTA contacted the Advisory Council on Historic Preservation (ACHP) to inform them of the project and provided them with copies of the materials from the consulting parties meeting. In January 2016 FTA notified ACHP of its determination of adverse effects to historic properties, providing further opportunities for ACHP review and comment. ACHP responded on February 26, 2016 that its review of the Section 106 process was not required, and that its participation was not needed in the consultation to resolve adverse effects.

Cooperating and participating agencies have defined opportunities for meaningful participation in the decision-making process for the project. These opportunities are outlined in **Table 9-1**.

Table 9-1: Coordination Points and Responsibilities

Date Completed	Coordination Point	Format	Timeframe	Lead Agency Responsibility	Input from Agencies	Agencies Responsible for Input
Fall 2013	Project Management Team (PMT) Meetings Lead and Cooperating Agencies	Meeting	Bi-Weekly November 2010 through Fall 2013	Draft project materials and analysis; identification of issues and coordination needs	Collaboration and input on project materials and analysis, as well as project issues and coordination needs	Cooperating agencies
January 2011	Issue Notice of Intent (NOI)	<i>Federal Register</i> notice	January 2011	Publish NOI in the <i>Federal Register</i> and notices in local newspaper; invite agencies and public to scoping meetings	Comments on NOI	Participating and cooperating agencies
January 2011	Issue Cooperating and Participating Agency Invitation Letters	Letter	January 2011	Send letters inviting agencies to act as cooperating or participating agencies	Letter accepting or declining the invitation	Participating and cooperating agencies (all invited)
January 2011	Project Scoping <ul style="list-style-type: none"> Agency Coordination, Document Review Timeframes, and Scheduling Data Sources and Previous Studies 	Agency Scoping Meeting (2/10/11), Resource Agency Meetings, Conference Calls, Phone or Email (as required), Written Correspondence	February 2011 – March 2011	Provide materials and hold scoping meeting; include draft purpose and need statement, initial range of alternatives, and potential environmental effects	Comments on draft purpose and need, initial range of alternatives, and issues of concern	Participating and cooperating agencies; general public
Spring 2012	Impact Assessment Methodologies	Resource Agency Meetings, Conference Calls, Phone or Email (as required), Written Correspondence	Spring 2012	Provide opportunity to collaborate on the development and review of methodologies required for the analysis of alternatives	Collaboration and input through the development of methodologies, and comments on proposed methodologies	Participating and cooperating agencies
Fall 2012	Impact Assessment, Evaluation of Alternatives, Section 4(f) Evaluation	Resource Agency Meetings, Conference Calls, Phone or Email (as required), Written Correspondence	Spring 2012 – Fall 2012	Identification of potential impacts to resources as a result of the alternatives	Identification of any issues of concern regarding potential environmental or socioeconomic impacts of the alternatives, including issues that could substantially delay permit approval	Participating and cooperating agencies
April 2015	Public Meetings	Public Meeting	Spring 2012 – Spring 2015	Provide materials and hold public meeting	Collaboration and input through the development of meeting materials	Participating and cooperating agencies; general public
July 2012	Virginia Department of Historic Resources (VDHR) Section 106 Review Initiation Meeting	Agency Meeting	July 2012	Provide Section 106 methodology to VDHR for review, comment and concurrence	Collaboration and input through the development of methodologies and technical reports	Participating and cooperating agencies

Date Completed	Coordination Point	Format	Timeframe	Lead Agency Responsibility	Input from Agencies	Agencies Responsible for Input
September 2012	Issue Invitation Letters to Potential Section 106 Consulting Parties	Letter	September 2012	Send letters inviting agencies to act as consulting parties	Letter accepting or declining the invitation	Consulting parties (all invited)
February 2013	Section 106 Cultural Resources Consulting Parties Meeting	Consulting Parties Meeting	February 2013	Provide Section 106 compliance to VDHR for review, comment and concurrence	Collaboration and input on project analysis, as well as designated cultural resources	VDHR, Cooperating Agencies and Section 106 Consulting Parties
March 2013	Section 106 Cultural Resources Consulting Parties Meeting	Consulting Parties Meeting	March 2013	Provide Section 106 compliance to VDHR for review, comment and concurrence	Collaboration and input on project analysis, as well as designated cultural resources	VDHR, Cooperating Agencies and Section 106 Consulting Parties
November 2013	B-CSX Design Option Conceptual Plan Review Meeting	Meeting	November 2013	Provide conceptual plans of B-CSX Design Option	Further review and comment from CSXT on B-CSX Design Option	CSXT
April 2015	Circulation of Draft EIS and Section 4(f) Evaluation	Public hearing; notice of public availability of document; document for review and comment	Spring 2015	Make available the Draft EIS and Section 4(f) Evaluation to cooperating and participating agencies and the public	Comments on the Draft EIS and Section 4(f) Evaluation	Participating and cooperating agencies; general public
November 2015	Section 106 Cultural Resources Consulting Parties Meeting	Consulting Parties Meeting	November 2015	Identification of Adverse Effects; Resolution of Adverse Effects (Mitigation); Development of Section 106 Memorandum of Agreement (MOA)	Agreement on adverse effects and their resolution; Development of the Section 106 MOA	VDHR, Cooperating Agencies and Section 106 Consulting Parties
June 2016	Circulation of Final EIS and Section 4(f) Evaluation	Notice of availability of document; document for review	June 2016	Make available the Final EIS and Section 4(f) Evaluation to cooperating and participating agencies and the public	Comments on the Final EIS and Section 4(f) Evaluation	Participating and cooperating agencies; general public
June 2016	Section 106 Cultural Resources Consulting Parties Meeting	Consulting Parties Meeting	June 2016	Circulation of MOA for signature among the Consulting Parties	Execution of the Section 106 MOA	VDHR, Cooperating Agencies and Section 106 Consulting Parties
Summer 2016	Issue Record of Decision (ROD)	<i>Federal Register</i> and newspaper notice	Summer 2016	Publish ROD in local newspaper and the <i>Federal Register</i>	FTA, NPS	None

10.0 SECTION 4(F) DETERMINATION

As described in **Section 5**, the Preferred Alternative for the Potomac Yard Metrorail Rail Project would result in use of the following Section 4(f) properties:

- George Washington Memorial Parkway,
- Mount Vernon Memorial Highway;
- Parkways of the National Capital Region;
- Potomac Greens Park; and
- Greens Scenic Area easement.

As described above, FTA finds that there is no feasible and prudent alternative to the use of Section 4(f) property for this project. FTA, the City of Alexandria, and WMATA have committed to minimize the harm to these resources associated with the Preferred Alternative by implementing the measures of the Section 106 MOA, the Net Benefits Agreement between the City of Alexandria and NPS, and the City of Alexandria DSUP process. As described in **Section 8**, the Preferred Alternative would cause the least overall harm in light of Section 4(f)'s preservation purpose in comparison to the other project alternatives.

ATTACHMENT A: REFERENCES

Map Data

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ATTACHMENT B: LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
CCPY	Crystal City/Potomac Yard
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CLRP	Constrained Long Range Plan
CRACA	Colonial Revival Apartment Complexes of Alexandria
CSXT	CSX Transportation
DES	Arlington County Department of Environmental Services
DOI	United States Department of Interior
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
FR	Federal Register
FTA	Federal Transit Administration
GIS	geographic information system
GWMP	George Washington Memorial Parkway
JPA	Joint Permit Application
LEDPA	Least Environmentally Damaging Practicable Alternative
LWCF	Land and Water Conservation Fund Act
MVMH	Mount Vernon Memorial Highway
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPS	National Park Service
NRHP	National Register of Historic Places
ROD	Record of Decision
SHPO	State Historic Preservation Office
THPO	Tribal Historic Preservation Officer
TIP	Transportation Improvement Program for the Washington Metropolitan Region
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDHR	Virginia Department of Historic Resources
VMRC	Virginia Marine Resources Commission

VRE	Virginia Railway Express
WMATA	Washington Metropolitan Area Transit Authority
WOUS	Waters of the U.S.

ATTACHMENT C:
OFFICIALS WITH JURISDICTION CORRESPONDENCE



May 9, 2016

Mr. Mark B. Jinks
City Manager
City of Alexandria
301 King Street
Alexandria, Virginia 22314

**SUBJECT: Potomac Yard Metrorail Station Project: Section 4(f)
Temporary Occupancy Exception Determination for Rail Park
(Landbay D)**

Dear Mr. Jinks:

The purpose of this letter is to seek your concurrence, as the official with jurisdiction over the planned Rail Park (Landbay D), with the Federal Transit Administration's (FTA) temporary occupancy exception determination for this property, pursuant to Section 4(f) of the U.S. Department of Transportation Act of 1966, now codified at 49 U.S.C. 303 et seq. and implemented in 23 CFR Part 774.

FTA as the lead Federal agency, and the City of Alexandria, as the project sponsor and joint lead agency, in cooperation with the Washington Metropolitan Area Transit Authority (WMATA) and the National Park Service, have prepared a Final Environmental Impact Statement (Final EIS) and Section 4(f) Evaluation for the Potomac Yard Metrorail Station project ("the project"). FTA will provide public notice of the proposed project and opportunity for public comment on its intent to make a temporary occupancy exception determination for the planned Rail Park during the Final EIS and Section 4(f) Evaluation 30-day review period, which is anticipated during May-June 2016.

Though the Rail Park is not anticipated to be open to the public prior to the construction of the proposed Metrorail station, Section 4(f) applies to a planned facility when a public entity owns the property and has formally designated and determined it to be significant for park and recreational purposes. The City of Alexandria has stated that the Rail Park is included in the current inventory of parks and counted in the City's total park acreage, with planned uses for a dog park and passive open space. Therefore, the planned Rail Park was determined to be eligible for protection under Section 4(f).

The project would require a temporary construction easement for use of the entire 4.21 acres of the planned Rail Park for construction staging. Some station facilities will be built from the area between the WMATA and CSX tracks, and Rail Park is the only place from which those facilities can be constructed. Also, the Rail Park would be used for construction access via an existing private access driveway

**Washington
Metropolitan Area
Transit Authority**

600 Fifth Street, NW
Washington, D.C. 20001
202/962-1234

*By Metrorail:
Judiciary Square-Red Line
Gallery Place-Chinatown
Red, Green and
Yellow Lines*

*A District of Columbia
Maryland and Virginia
Transit Partnership*

that serves the WMATA traction power substation. Construction access and staging would require the removal of the existing vegetation and ground leveling of the site for use as a construction staging area. See **Attachment A**, which shows an overview of the project and the planned Rail Park.

The project sponsor expects the temporary use of the Rail Park to be less than the entire duration of construction. The Rail Park would be fully restored to its present condition after construction activities are completed. This restoration includes the planting of shrubs and herbaceous plants to replace the vegetation that was removed for construction. The access driveway through the Rail Park that serves the WMATA traction power substation would also be fully restored to its former condition. No substantial impairment of the planned activities, features, or attributes that qualify the park for protection under Section 4(f) would occur. WMATA would obtain a temporary construction easement; no change in ownership of the park would occur.

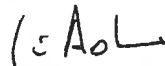
Pursuant to 23 CFR 774.3(b) and based on a review of information presented in the Final EIS, FTA proposes a temporary occupancy exception determination for the Rail Park, as it satisfies the five criteria for temporary occupancy set forth in 23 CFR 774.13(d). Specifically, (1) the duration of the proposed work is temporary, less than the overall project construction period, and no change in property ownership would occur; (2) the work would result in minimal changes to the park; (3) no permanent adverse impacts to the planned park and no interference with the protected activities, features, or attributes of the planned park would occur; (4) the disturbed land would be fully restored to at least as good condition; and (5) the official with jurisdiction is providing documented agreement to these findings.

At this time, on behalf of FTA, WMATA requests the City of Alexandria's concurrence with the Section 4(f) temporary occupancy exception determination for expected temporary impacts to the planned Rail Park as a result of construction access and staging for the proposed Metrorail station. Pursuant to 23 CFR 774.5, if you concur, the City of Alexandria must provide a written response to FTA stating that the project will not adversely affect the planned activities, features, or attributes that make the future park eligible for Section 4(f) protection. A concurrence clause is provided at the end of this letter for this purpose. If the City of Alexandria objects to or if comments raise new concerns about the proposed Section 4(f) temporary occupancy exception determination, FTA will require a formal Section 4(f) evaluation.

On behalf of the project team, I respectfully request your reply to this matter by May 10, 2016. FTA and WMATA look forward to continuing our successful working relationship with the City of Alexandria, and should you have any questions or need additional information, please feel free to contact Mr. Daniel Koenig, Environmental Protection Specialist, at the FTA Region III office by phone at (202) 219-3528, or by email at daniel.koenig@dot.gov or me at (202) 962-1745 or by email at jashe@wmata.com.

Mr. Mark B. Jinks
Potomac Yard Metrorail Station Project
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Sincerely,



Jim Ashe
Manager, Environmental Planning and
Compliance

cc: Dan Koenig, Federal Transit Administration
Lee Farmer, City of Alexandria

CONCURRENCE:

I concur that the planned activities, features, and attributes of the future Rail Park would not be adversely impacted by the proposed Potomac Yard Metrorail Station and that the project's proposed temporary use of the planned Rail Park meets the criteria for a temporary occupancy exception under Section 4(f) of the USDOT Act of 1966 (49 U.S.C. 303 et seq.).



Mark B. Jinks, City Manager

5-19-16

City of Alexandria Signature for Concurrence

Date

APPROVED AS TO FORM:


ASSISTANT CITY ATTORNEY

Attachment A



Preferred Alternative Construction Staging and Access

LEGEND

- Preferred Alternative - Platform & Facilities
- Preferred Alternative - New Metrorail Track
- Construction Access and Impact Area**
- Staging Area
- Access Route
- Existing Metrorail Blue/Yellow Line
- Existing CSXT Tracks
- Existing CSXT Right-of-Way
- George Washington Memorial Parkway (NPS Property)
- Greens Scenic Area Easement

* NOTE

1. Potomac Greens Park playground to be closed/relocated during construction
2. Trail adjacent to Carpenter Road will be closed near the construction staging area (and boardwalk trail in Potomac Greens Park will be demolished for the staging area).
3. Old Town Greens Homeowners Association playground to be relocated or closed and tennis courts to be closed during construction.



0 200 400 Feet



POTOMAC YARD
METRORAIL STATION EIS