DRAFT ADDENDUM

Phase I Archaeological Survey Report Potomac Yard Metrorail Station Project City of Alexandria, Virginia, and Arlington County, Virginia

DHR File No. 2012-0717
ARPA Permit 12-GWMP-006

Prepared for

Washington Metropolitan Area Transit Authority
600 5th Street, NW
Washington, D.C. 20001

Prepared by

John W. Lawrence, Principal Investigator

AECOM
437 High Street Street
Burlington, NJ 08610

February 2016

AECOM

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John W. Lawrence, Principal Investigator
AECOM Transportation
437 High Street
Burlington, New Jersey 08016

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ABSTRACT

In March of 2013, the Federal Transit Administration (FTA) reported the results of identification-level (Phase I) archaeological testing for the proposed Potomac Yard Metrorail Station (PYMS) project in the City of Alexandria, Virginia. FTA is the lead federal agency for the undertaking. The PYMS project proposes the construction of a new Metrorail station on the existing Washington Metropolitan Area Transit Authority (WMATA) Blue/Yellow Line in the Potomac Yard section of Alexandria. As originally defined, the project's area of potential effects (APE) for archaeology encompassed 18.25 hectares (45.1 acres).

At the time of the Phase I report (2013), three build alternatives were under consideration for the proposed undertaking, and the archaeological APE encompassed the limits of disturbance (LOD) for all of them. The Phase I survey identified three areas of elevated archaeological sensitivity in the APE (Test Areas A, B, and C) and subsurface testing was conducted in each area. Phase I testing identified one previously unrecorded archaeological site in Test Area A: 44AX0220; and two previously unrecorded archaeological sites in Test Area B: 44AX0221 and 44AX0222. Avoidance and preservation in place were recommended for these resources, which are potentially eligible for inclusion in the National Register of Historic Places (NRHP). If they could not be avoided, FTA recommended Phase II archaeological investigations. In a letter dated March 13, 2013, the Virginia Department of Historic Resources (VDHR) agreed with these recommendations (Appendix A).

Subsequent to that survey:

- A new alternative was developed ("B-CSX Design Option");
- Construction access options, with and without access from the George Washington Memorial Parkway (GWMP), were developed for two of the original build alternatives—Build Alternatives A and B;
- Build Alternative B, with Option 2 Construction Access (no construction access from the GWMP roadway), was selected as the Preferred Alternative; and
- Refinements were made to the Preferred Alternative based on more detailed architectural and engineering design of station and track facilities, and to minimize adverse impacts to environmental and cultural resources.

FTA recommended that the APE be defined as the LOD for the Preferred Alternative and in a letter dated January 14, 2016, the VDHR agreed with the proposed boundary change of the APE (Appendix A). With the exception of six areas that extend beyond the limits of the original APE, the revised APE falls within the original APE and was consequently reviewed as part of the Phase I archaeological survey. The areas outside the original APE are assessed to have low potential to contain undocumented archaeological resources. It is the opinion of FTA that the Preferred Alternative will have no adverse impacts to the documented archaeological sites reported in the original project APE. FTA further recommends that steps be taken to protect adjacent archaeological sites during construction, and that a construction protection plan and an unanticipated discoveries plan be developed prior to construction and approved by the consulting parties. Stipulations for these protective measures shall be included in a memorandum of agreement, but no further archaeological investigation should be required at this time to satisfy Section 106 review of the project.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

In March 2013, the Federal Transit Administration (FTA) reported the results of Phase I archaeological testing, in coordination with the City of Alexandria and the Washington Metropolitan Area Transit Authority (WMATA), as part of the Section 106 review process for the Potomac Yard Metrorail Station (PYMS) project. The Phase I archaeological testing was conducted on property administered by the National Park Service (NPS) and property owned by the City of Alexandria that could be impacted during construction activities associated with the PYMS project (**Figure 1**). All work within the NPS-administered George Washington Memorial Parkway (GWMP) was carried out under the auspices of an Archaeological Resources Protection Act permit (ARPA Permit 12-GWMP-006) issued by the NPS – National Capital Region on August 28, 2012.

As originally defined, the APE for archaeology encompassed the limit of disturbance (LOD) for three build alignment alternatives under consideration, including construction staging areas and temporary construction access routes. It measured approximately 18.25 hectares (45.1 acres) of railroad right-of-ways, commercial and residential properties, wetlands, forested woodlots, and manicured parklands, including portions of the NPS-administered GWMP (**Figure 2**). Within the APE for archaeology, three areas of elevated archaeological sensitivity were identified for testing: Test Areas A, B, and C (**Figure 3**). The physiographic setting of each test area was assessed to be moderate for prehistoric archaeological deposits, and Test Area A was assessed to have moderate sensitivity for historic archaeological resources, as well (AECOM 2013:22–23) Subsurface testing was conducted during the fall of 2012 and three archaeological sites were reported: 44AX0220, 44AX0221, and 44AX0222.

Since the submission of the Phase I report to the Virginia Department of Historic Resources (VDHR):

- A new alternative was developed ("B-CSX Design Option");
- Construction access options, with and without access from the GWMP roadway, were developed for two of the original build alternatives—Build Alternatives A and B;
- Build Alternative B, with Option 2 Construction Access (no construction access from the GWMP roadway), was selected as the Preferred Alternative; and
- Refinements were made to the Preferred Alternative based on more detailed architectural and engineering design of station and track facilities, and to minimize adverse impacts to environmental and cultural resources.

This addendum report presents details of the refinement of alternatives and assesses the potential of the Preferred Alternative to affect any of the archaeological resources previously identified in the project APE. No potential for adverse effects to any of these resources has been identified.

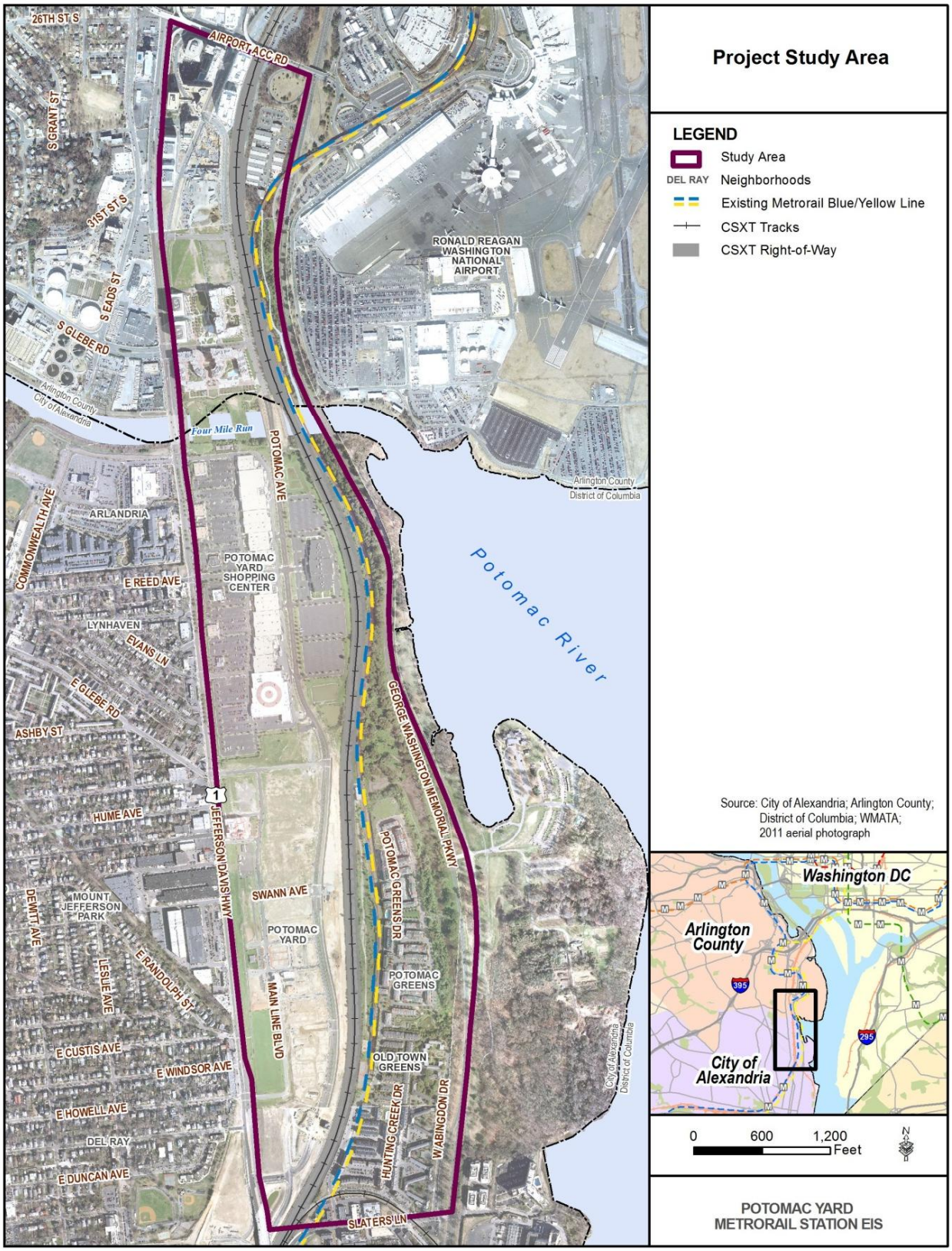

Figure 1. Project area location (purple) (ESRI 2012a), 1:50000.

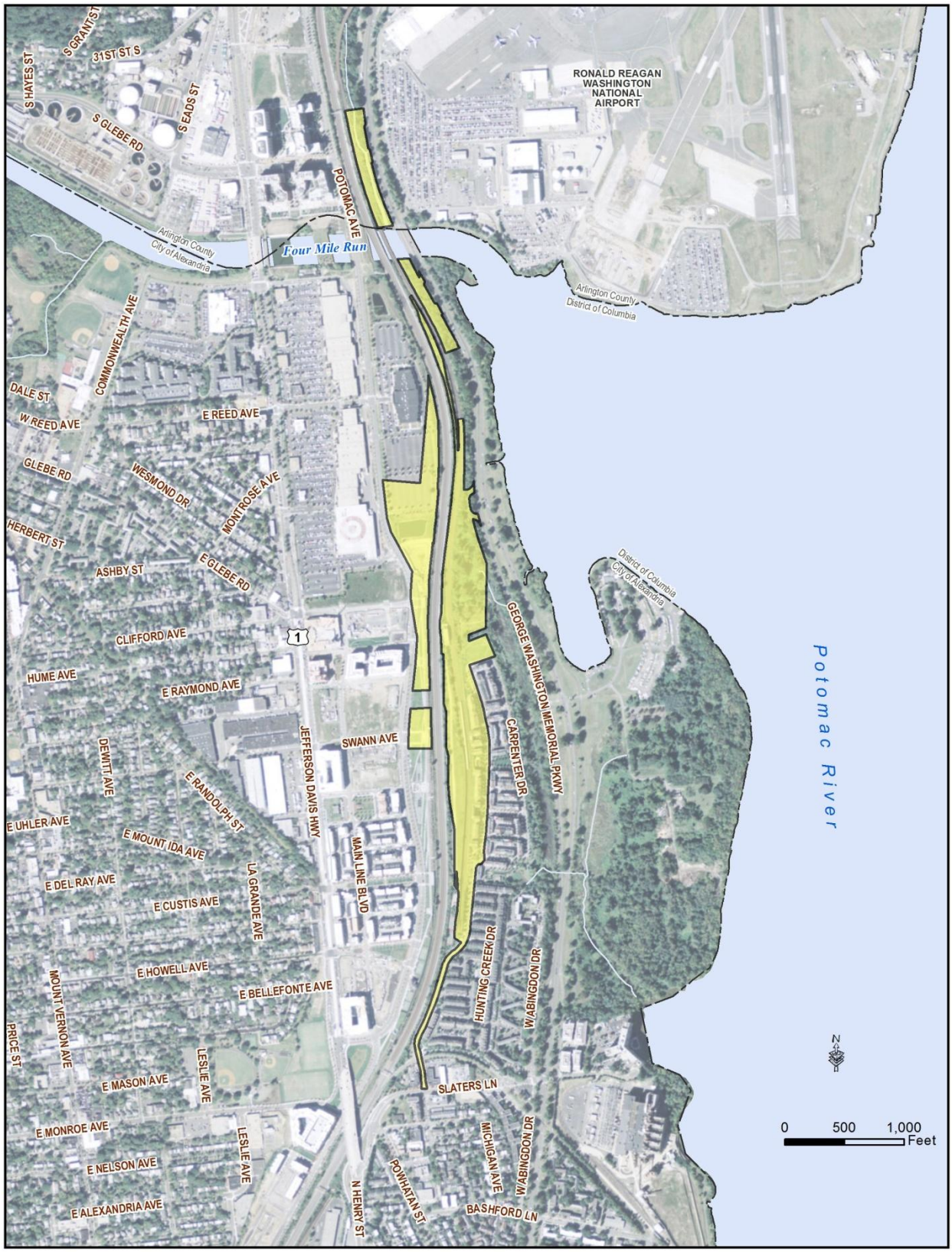

Figure 2. APE for archaeology in 2013 (yellow); (ESRI 2012), 1:12,000.

Figure 3. Test Areas A, B, and C (yellow) and archaeological sites (pink); (ESRI 2015), 1:5000.

2.0 PROJECT ALTERNATIVES AND REVISED APE

The project proposes the construction of a new Metrorail Station located in the Potomac Yard area within the City of Alexandria, along the existing Metrorail Blue and Yellow Lines. The station would be located between the Ronald Reagan Washington National Airport station and the Braddock Road Metrorail station. The project would serve existing neighborhoods and retail centers, as well as high-density, transit-oriented development the City of Alexandria planned for Potomac Yard. The project would provide access to the regional Metrorail system for the U.S. Route 1 corridor of northeast Alexandria, which is currently without direct access to the Metrorail system. The purpose of the project is to improve the accessibility of the Potomac Yard area and to provide more transportation choices for current and future residents, employees, and business patrons by establishing a new access point to the regional Metrorail system.

2.1 Original Alternatives

A report titled *Refinement of Alternatives, Constructability, and Construction Staging Report* (AECOM 2012), prepared in support of the PYMS Draft Environmental Impact Statement (DEIS), defined the three build alternatives used to construct the APE for the 2013 archaeological survey.[1] As originally constructed, the APE for archaeology measured 18.25 hectares (45.1 acres), roughly bounded by the GWMP on the east, Slaters Lane on the south, Potomac Avenue on the west, and 35th Street South on the north in Arlington County. It encompassed all areas of potential ground disturbance associated with permanent and temporary construction access, as well as permanent construction footprints for Build Alternatives A, B, and D.

The original alternatives are briefly described below.

2.1.1 Build Alternative A

The Build Alternative A station location was determined by the amount of tangent (straight track) available within the project area (**Figure 4**). Ancillary facilities would extend outwards, abutting the existing Metrorail traction power substation (TPSS) at the northern end. Only minimal track realignment would be required within the station area and in special track work areas, including construction of a double crossover, located approximately 900 feet south of the station.

Additional station facilities would include two pedestrian bridges from the station over the CSXT right-of-way to the planned development in Potomac Yard, and pedestrian access to the Potomac Greens and Old Town Greens neighborhoods (which would not require crossing the CSXT right-of-way). The bridges would be designed to provide access to existing pedestrian crosswalks on Potomac Avenue. Access to Potomac Greens and Old Town Greens would also be designed to provide connections to existing pathways in the Potomac Greens neighborhood.

1. This document was included as Appendix D in the Phase I archaeological survey report (AECOM 2013).

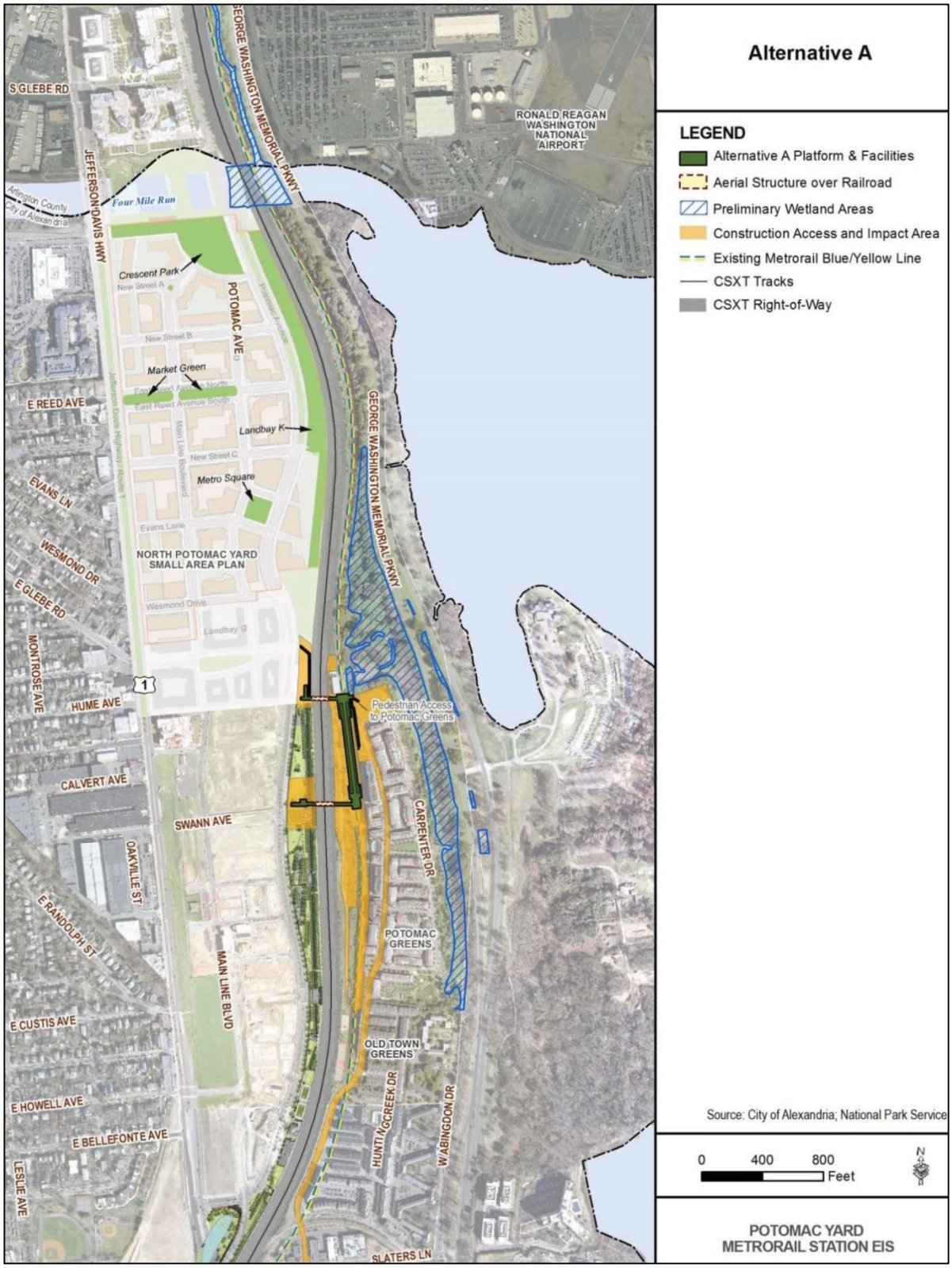

Figure 4. Build Alternative A.

2.1.2 Build Alternative B

The station location and new track alignment of Build Alternative B was developed through consideration of a number of potential Alternative B alignments, with the goal of providing good pedestrian access from Potomac Yard and Potomac Greens, while minimizing impacts to wetlands, the NPS scenic easement, and existing Metrorail facilities (**Figure 5**). Ancillary facilities would extend outwards a few feet from the southern boundary of Zone B, abutting the existing Metrorail TPSS. The Alternative B alignment would require the following track work:

- Track realignment, involving an approximately 1,450-foot shift of existing track (double track);
- Installation of approximately 1,300 feet of proposed new track (double track); and
- Removal of approximately 1,300 feet of existing track (double track).

Vertical alignment of the new track would be at about the same elevation as the existing Metrorail alignment. Thus, Alternative B would be an at-grade station and would utilize a side platform layout. Special track work (to include construction of a double crossover) would be required approximately 100 feet north of the station.

Additional station facilities would include two pedestrian bridges from the station over the CSXT right-of-way to the planned development in Potomac Yard. A pedestrian bridge would be constructed at the southern end of the station to provide access to Potomac Greens, providing access to the existing pedestrian crosswalk at the Potomac Avenue and East Glebe Road intersection, at the southern end of the planned development in North Potomac Yard. The northern pedestrian bridge would provide more direct access to the planned development in North Potomac Yard. Station access to Potomac Greens would also be designed to provide connections to existing pathways in the neighborhood.

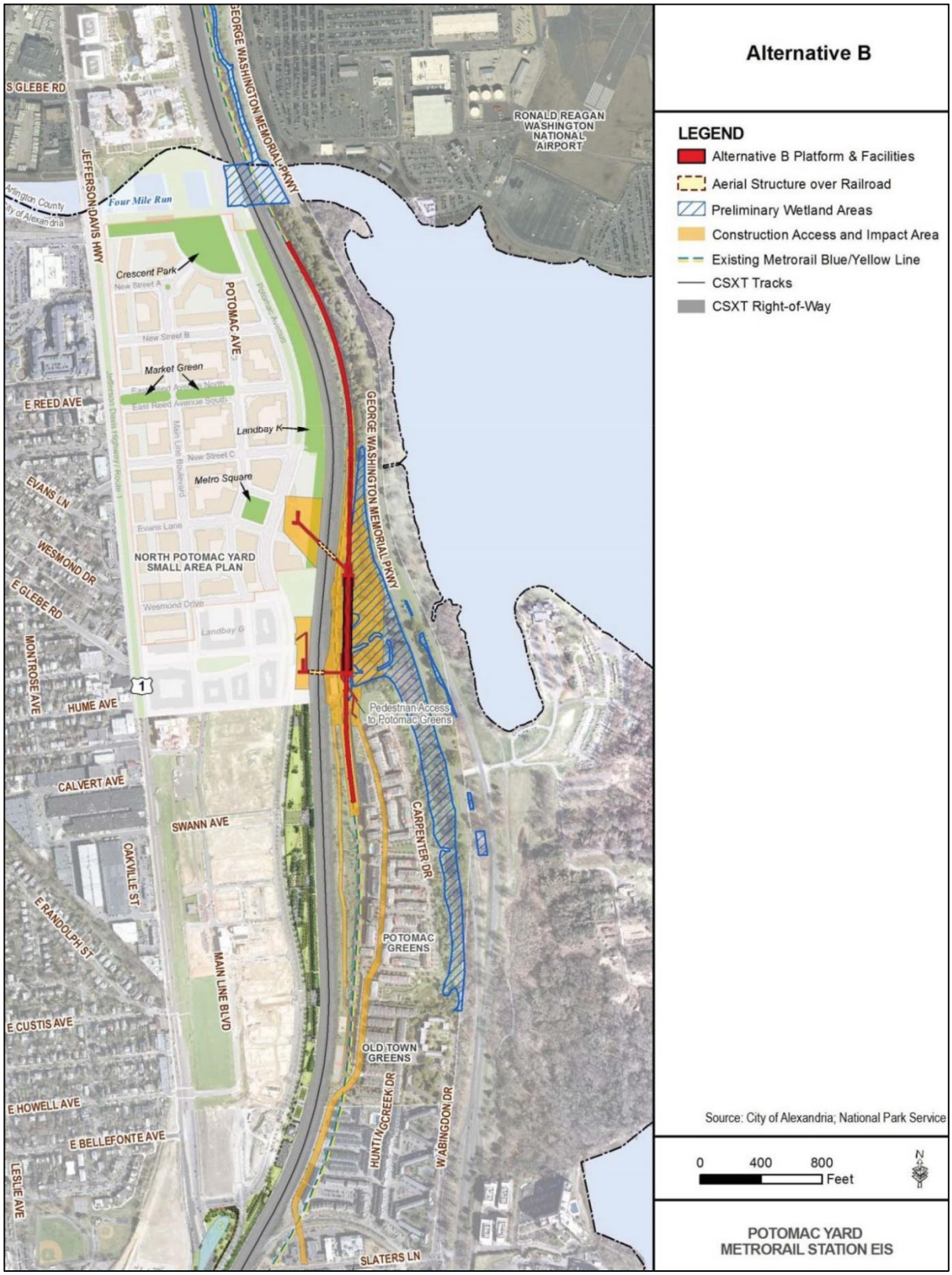

Figure 5. Build Alternative B.

2.1.3 Build Alternative D

The station location and alignment of Alternative D was developed by placing the station as far east as possible in order to minimize impact to developable land and to the proposed layout of the *North Potomac Yard Small Area Plan* (**Figure 6**). The Alternative D alignment would require the following track work:

- Realignment, involving an approximately 1,000-foot shift of existing track (double track);
- Construction of two Metrorail aerial bridges crossing the CSXT right-of-way north and south of the station;
- New structures over Four Mile Run, CSXT, and Metrorail tracks;
- Installation of approximately 5,600 feet of proposed new track (double track), mostly an aerial structure; and
- Removal of approximately 5,600 feet of existing at-grade track (double track).

In order to position the station on the west side of the CSXT right-of-way, Alternative D would require that the Metrorail alignment cross over the CSXT right-of-way north of the station, and again south of the station, to tie-in to the existing alignment as it enters a tunnel below-grade. In order to satisfy this requirement, Alternative D would require that most of the new track be elevated and aerial structures be constructed along the alignment, including one 300- to 400-foot single-span bridge over Four Mile Run (new bridge), and multiple-span aerial structures, on relatively flat skew, over existing Metrorail and CSXT tracks. Also, because it would be necessary for most of the new track to be elevated, the station would be aerial and located on an elevated structure.

Since Alternative D would be located west of the CSXT right-of-way within the planned development in North Potomac Yard, pedestrian bridges over the CSXT right-of-way to the planned development would not be required. To provide access for residents of Potomac Greens and Old Town Greens, additional facilities would include one pedestrian bridge from the existing pedestrian crosswalk at the Potomac Avenue and East Glebe Road intersection, over the CSXT right-of-way to existing pathways and access points within the Potomac Greens neighborhood. Additional structural improvements would include the removal and replacement of the existing retaining wall at Potomac Greens and the removal of an additional retaining wall on the west side of the existing Metrorail tracks, north of the portal at the southern end of the neighborhood.

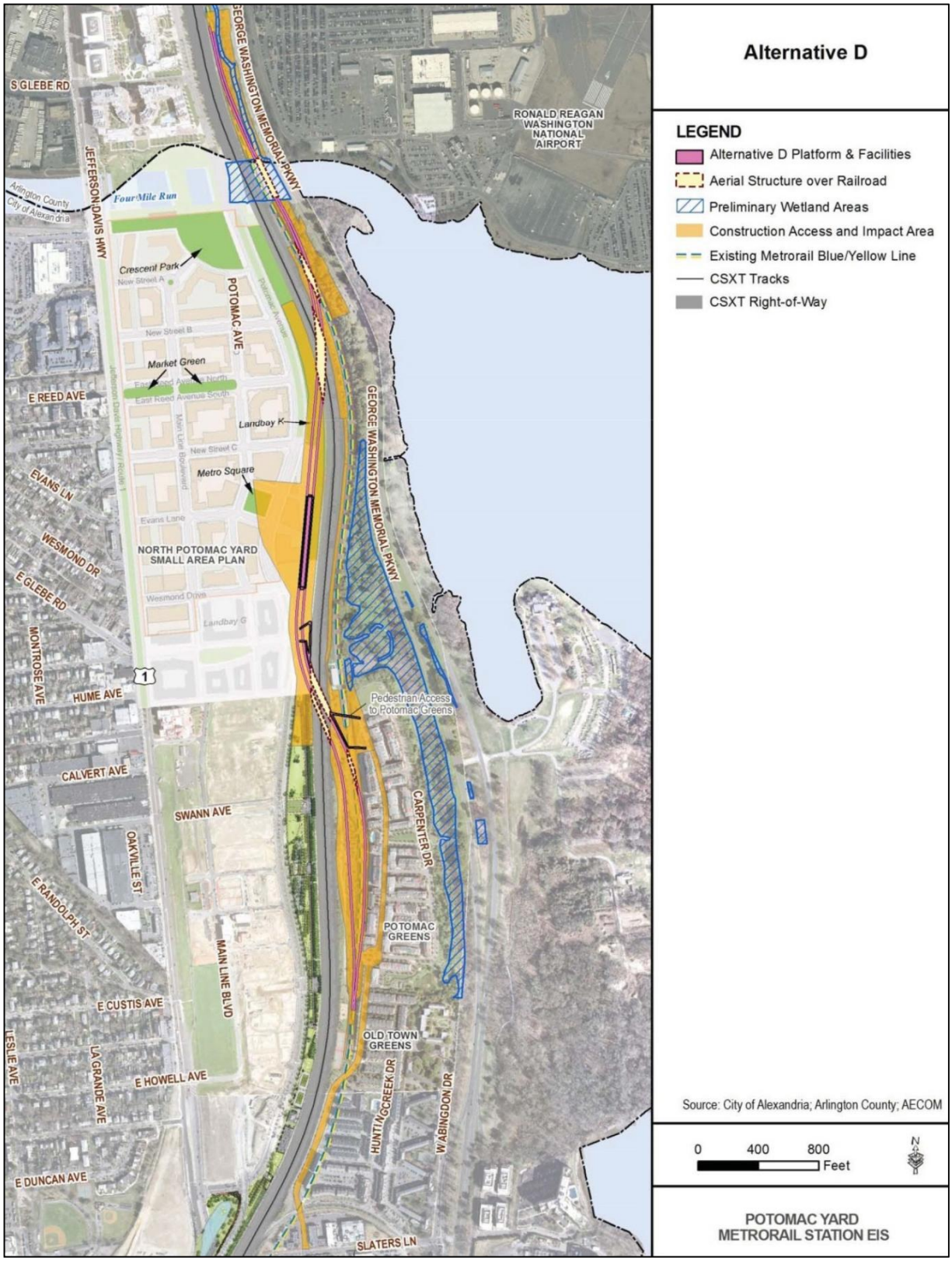

Figure 6. Build Alternative D.

2.2 Refinement of Alternatives

Since publication of the previous report:

- A new alternative was developed ("B-CSX Design Option");
- Construction access options, with and without access from the GWMP, were developed for two of the original build alternatives—Build Alternatives A and B;
- Build Alternative B, with Option 2 Construction Access (no construction access from the GWMP roadway), was selected as the Preferred Alternative ; and
- Refinements were made to the Preferred Alternative based on more detailed architectural and engineering design of station and track facilities, and to minimize adverse impacts to environmental and cultural resources.

The construction access options developed for the two original build alternatives are described below.

2.2.1 Design Alternative A Construction Access Options

To construct Build Alternative A, access would be required to the areas immediately west and east of the existing Metrorail tracks. On the east side of the existing Metrorail tracks, access would be provided through one of two options:

- **Option 1**: Option 1 would include access to the area east of the existing Metrorail tracks, provided via a temporary construction access driveway from the GWMP through Potomac Greens Park. 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**: 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.

Both options would require access on the west side of the existing Metrorail alignment; temporary construction access would be provided utilizing the access road through the Rail Park to the WMATA TPSS (0.5 mile), crossing over the existing Metrorail alignment at the tennis court area of Old Town Greens (where Metrorail begins to travel below-grade). Access would also be required west of the CSXT right-of-way in Potomac Yard Park to construct landings and vertical circulation elements (escalators, elevators, and ramp) for the pedestrian bridges. Access would be provided via Potomac Avenue. Construction vehicles would use U.S. Route 1 to reach the local access routes described above.

2.2.2 Design Alternative B Construction Access Options

To construct Build Alternative B, access would be required to the area east of the existing Metrorail tracks. Construction access to the site would be provided by one of two options:

Option 1: Option 1 would include access to the area east of the existing Metrorail tracks, provided via a temporary construction access driveway from the 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: 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.

Both options would require access to the area west of the existing Metrorail tracks for some construction tasks, including the construction of the two pedestrian bridges; the access would utilize the access road through the Rail Park to the WMATA TPSS (0.5 mile), crossing the existing Metrorail alignment at the tennis court area of Old Town Greens (where Metrorail begins to travel below-grade). A construction access easement would also be required across a portion of the CSXT right-of-way so that construction vehicles utilizing the Rail Park roadway can get around the west side of the existing TPSS and be able to access the area north of the substation between the existing CSXT and Metrorail tracks. The easement would not cross CSXT tracks.

B-CSX Design Option and the Preferred Alternative are described below.

2.2.3 B-CSX Design Option

In an effort to reduce the impact to the GWMP, the B-CSX Design Option was developed. The alternative would relocate the CSXT tracks to the west of the existing line, straightening the alignment and eliminating the eastward curve of the existing CSXT line from a point near the intersection of Potomac Avenue and East Glebe Road to a point just north of the existing Potomac Yard Movie Theater (**Figure 7**). The relocation of the CSXT line would provide the room necessary to relocate the Build Alternative B station and its connecting track to avoid GWMP property and the Greens Scenic Area easement. The Metrorail station for B-CSX Design Option would be located about 1,150 feet to the north and 150 feet to the west of the Build Alternative B station and just east of the existing Potomac Yard Movie Theater on land currently occupied by the CSXT line. Similar to the Build Alternative B station design, the B-CSX Design Option would include an at-grade station with a side platform layout. Additional station facilities would include two pedestrian bridges from the station over the CSXT right-of-way to the planned development in Potomac Yard. A separate pedestrian bridge over the CSXT right-of-way and existing Metrorail tracks providing 24-hour pedestrian/bicycle access between the Potomac Yard and the Potomac Greens neighborhoods would be constructed as part of a separate City of Alexandria project. The design option also includes crossover tracks just north of the station to maintain operational flexibility.

B-CSX Design Option was not selected as the Preferred Alternative (see below). Although the design option would have advantages in avoiding GWMP property, the Greens Scenic Area easement, and associated wetland and floodplain areas, it had disadvantages in terms of impacts to North Potomac Yard and opposition by the Virginia Department of Rail and Public Transportation, as well as the Virginia Railway Express and Amtrak, which provide passenger rail services along the CSXT line. In addition, CSXT stated that it strongly preferred that the B-CSX Design Option not be chosen for the project. Even with agreement among the various parties, the City of Alexandria anticipates that selection of this alternative would cause a three-year delay to construct the project.

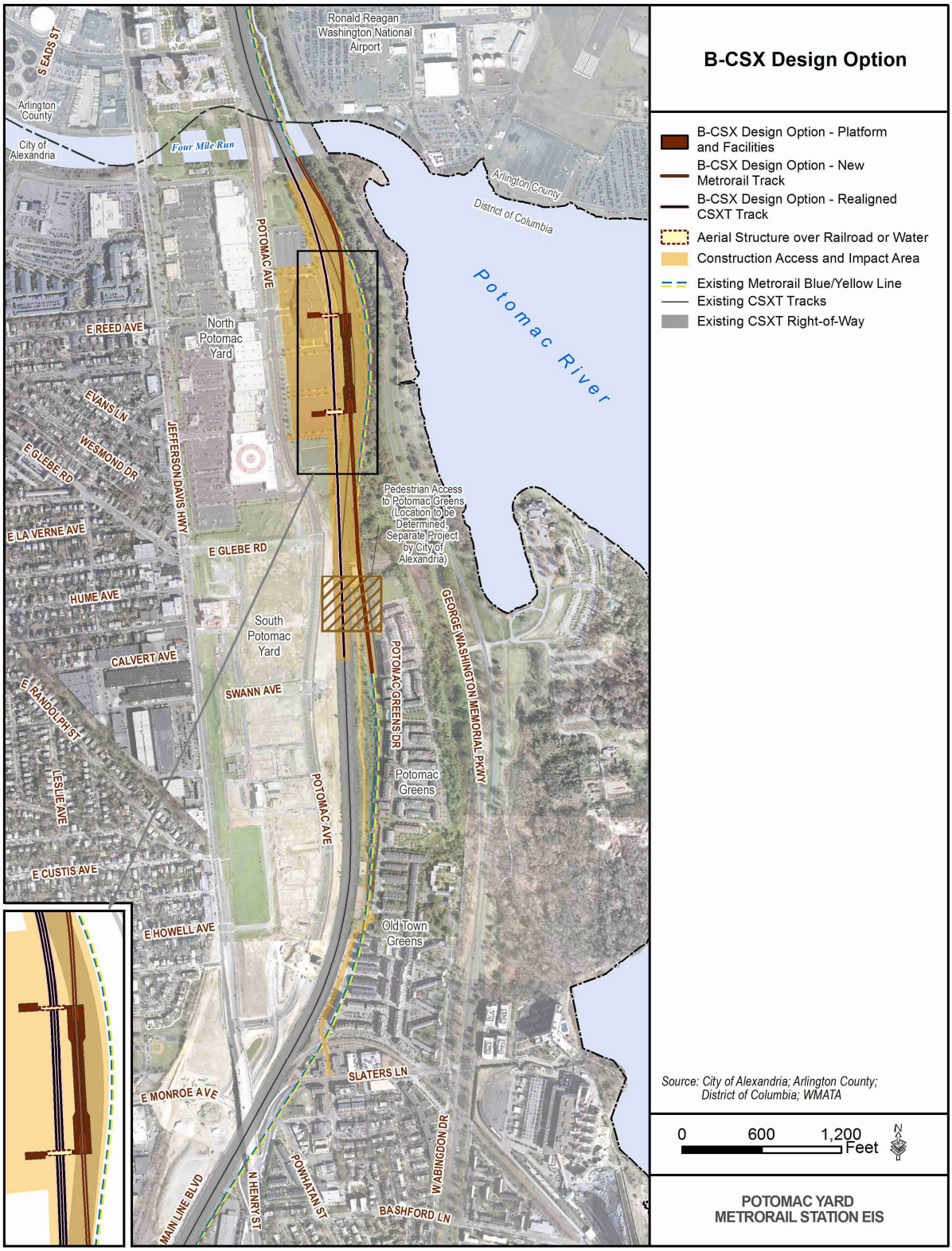

Figure7. B-CSX Design Option.

2.2.4 Preferred Alternative

On May 20, 2015, the City of Alexandria Council adopted Build Alternative B with Option 2 Construction Access (no access from the GWMP roadway) as the Preferred Alternative. Consistent with the City of Alexandria, FTA will identify its preferred alternative in the Final EIS. After the public review period of the Final EIS, FTA will issue its record of decision (ROD), which will state FTA's decision and present its basis for the decision regarding the NEPA preferred alternative. As the identified Preferred Alternative for the project, Build Alternative B, Option 2 Construction Access has been developed further based on more detailed architectural and engineering design of station and track facilities, and to minimize adverse impacts to adjacent resources (see **Figure 8**).

Design Options

For the Preferred Alternative, design refinements are underway to minimize the visual impacts of the eastern station building wall and the retaining walls along the realigned track. Replacing the retaining walls with earthen fill and extending these berms along the station wall and under the maintenance access easement would horizontally expand the footprint of the physical improvements. This expanded footprint would further extend into the Greens Scenic Area easement and a portion of the GWMP property, affecting ground-level resources in those areas, including forest and wetland vegetation and floodplain.

To demonstrate the relative difference between these two options and to encompass the maximum extent of impacts to visual and other environmental resources, the Final EIS presents two design options as follows:

- **Option 1 – Full Retaining and Station Walls:** the option maintains the design of Build Alternative B along the eastern side of the station building and realigned track. The station wall extends down to the existing grade level along the eastern side of the station, and retaining walls support the full extent of the realigned tracks to the north and south of the station.
- **Option 2 – Full or Partial Berm:** the option replaces the retaining walls with earthen fill and extends these berms along the station wall and under the maintenance access easement around the station. This option reduces the visual impact of the station wall by using a vegetated earthen berm to screen the portion of the station structure below the tracks and to support the maintenance access easement and realigned track beds. This option would increase the footprint of the station and realigned track area within parkland and natural areas along their eastern side by up to 20%.

The finalized design of the Preferred Alternative may incorporate design elements of both options. As design refinements are ongoing, additional minor refinements proposed for mitigation of project impacts will be specified in the ROD.

Construction Staging and Access Refinements from Build Alternative B

Refinements were made to the preliminary construction staging area and access routes presented in the Draft EIS for Build Alternative B, Option 2 Construction Access (no access from the GWMP roadway). The refinements incorporate more detailed development of construction phasing plans since the Draft EIS and efforts to reduce impacts to resources identified in the Draft EIS. The construction staging areas and access routes for the Preferred Alternative are shown in **Figure 8**.

The following refinements are made for the Preferred Alternative:

- *East of the Metrorail tracks* – To minimize impacts to the GWMP, the extent of the Build Alternative B construction staging area on the NPS property has been eliminated except where required for direct access to build the realigned track at the northern end of the project site. Use of NPS property for construction staging has been reduced from approximately 5.5 acres to 5.4 acres. A wider area of construction activity immediately north of the station is indicated to accommodate installation of a crossover switch on the realigned track. The construction staging areas avoid archaeological sites identified during the Phase I archaeological investigations, but the revised APE abuts the western limit defined for 44AX0222. 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 to accommodate potential modifications.
- *In between the Metrorail tracks and CSXT right-of-way* – The construction staging area is expanded 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 and Carpenter Drive by construction employees.
- *Access routes through the Old Town Greens and Potomac Greens neighborhoods* – To ensure safe conditions on the construction access route along the WMATA substation access road through the Old Town Greens common area, the project proposes temporarily relocating or closing the playground and 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 playground 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 includes both Potomac Greens Drive and Carpenter Drive.
- *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 to accommodate potential modifications.

As design refinements are ongoing, additional minor refinements proposed for mitigation of construction impacts will be specified in the ROD.

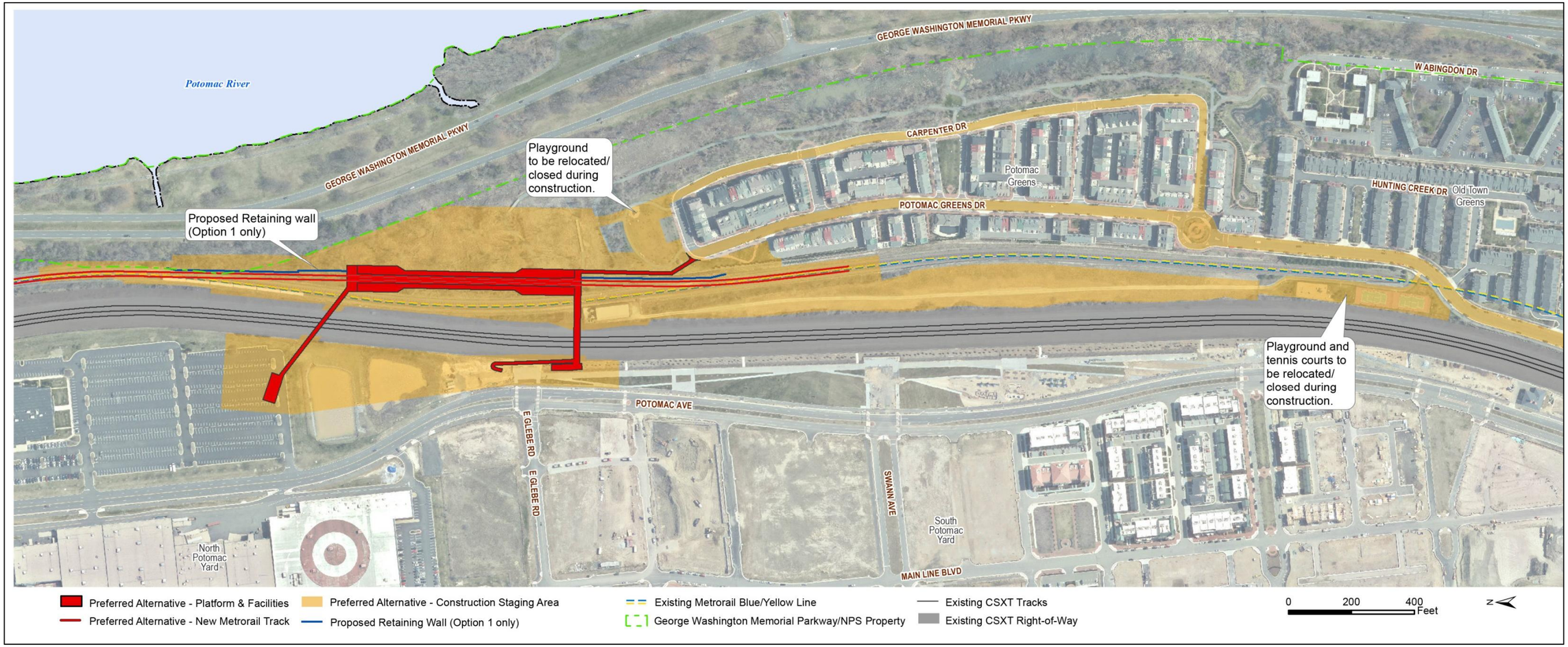

Figure 8. Preferred Alternative (Build Alternative B, Option 2 Construction Access).

2.3 Revised APE

Going forward, FTA has proposed revising the APE for archaeology to conform to the LOD for the Preferred Alternative, which comprises the footprint of disturbance for the proposed undertaking. The VDHR has agreed to this revised APE (Appendix A). The revised APE measures 10.7 hectares (26.3 acres) in comparison to the 18.25-hectare (45.1-acre) original APE. The 26.3-acre APE includes all areas that may be used for construction staging (see Figure 8). All areas within the revised APE are within the original APE and consequently were reviewed as part of the Phase I archaeological survey, with the exception of six separate areas. The principal areas where the APE extends beyond the limits of the 2013 Phase I archaeological survey are presented in the following table and labeled in **Figure 9**.

Table 1. Portions of the Revised APE Not in the Original APE

Map Key	Area	Proposed Use
1	North of proposed station	Rail berm
2	West of CSXT tracks	To use for construction staging, if needed
3	Playground and Carpenter Drive	Playground to be used for construction staging and Carpenter Drive as a construction access route
4	North end, Potomac Greens Drive	Construction staging area
5	Between Metrorail tracks and CSXT right-of-way	Construction staging area
6	Playground and tennis courts	Construction staging area

With regard to the LOD previously evaluated for Build Alternative B, the APE reflects the new construction access option, which removes the two proposed construction access driveways from the GWMP southbound roadway, and uses Potomac Greens Drive and Carpenter Drive as the sole construction access route for the area east of the CSXT tracks. As previously proposed for Build Alternative B, no modifications of the existing Potomac Greens Drive roadway for its use as an access route are planned, and no ground disturbances are anticipated along the length of Potomac Greens Drive or Carpenter Drive for the Preferred Alternative. New areas to the APE are to be used solely for construction access, with the exception of the northernmost area (Area #1), which will be used for rail bed construction. Under the Preferred Alternative, the GWMP roadway will not be utilized for any purpose. If any changes are made to construction staging areas, further consultation between FTA, NPS, WMATA, the City of Alexandria, and VDHR will assess the need for any further archaeological investigation.

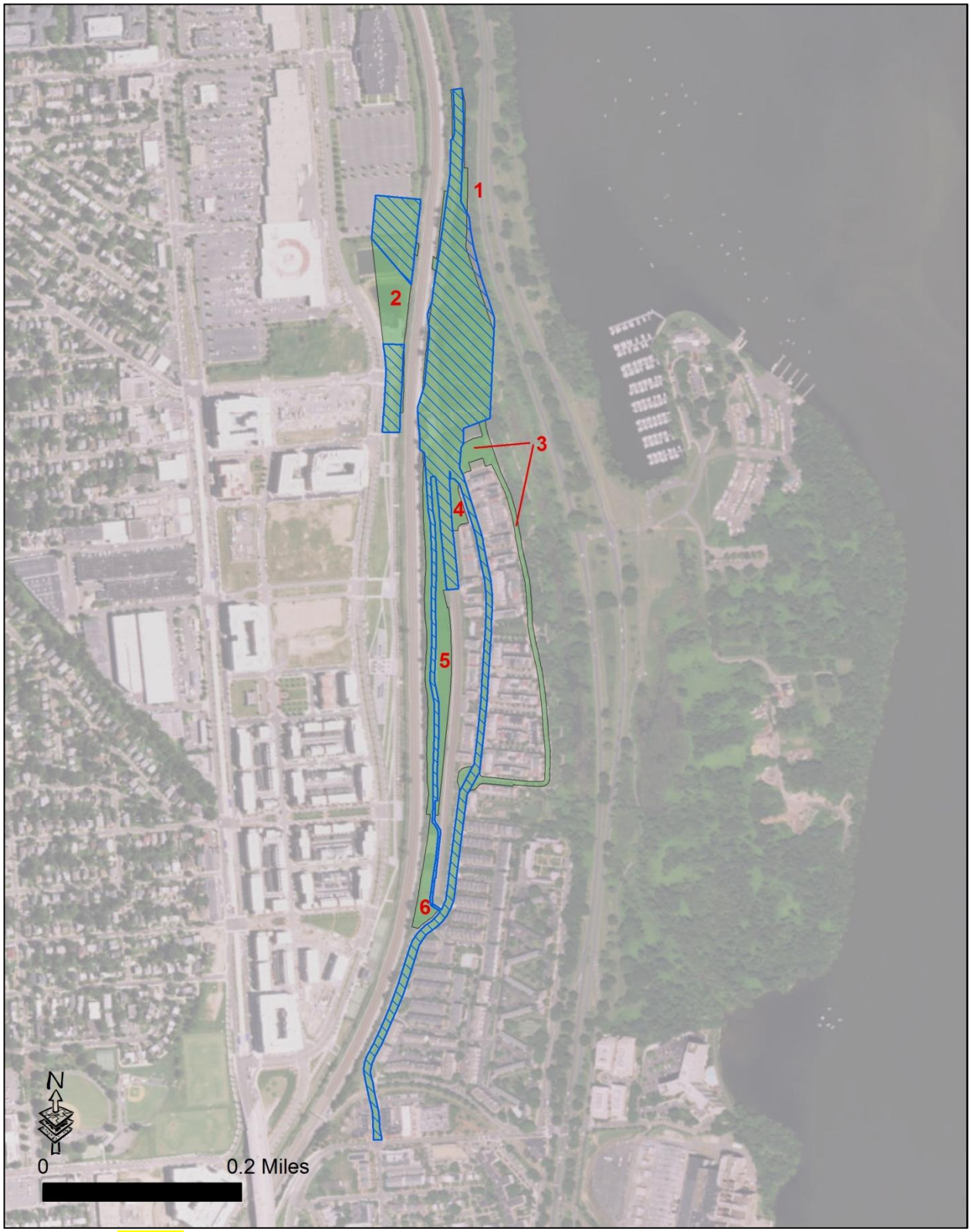

Figure 9. Revised APE: original (blue hatching) and revised (green) APEs; area of revised APE outside original APE numbered in red; (ESRI 2015), 1:8,000.

3.0 ASSESSMENT OF IMPACTS

As described in Section 1.0 of this report, three archaeological resources were identified in the original APE during the Phase I archaeological survey (AECOM 2013). In addition, five previously recorded archaeological sites are documented within a one-mile radius of the project (AECOM 2013:20–21). All of these sites are listed in **Table 2** below, and those closest to the revised APE are illustrated in **Figure 10**.

Table 2. Archaeological Sites within One Mile of the APE

Site #	Site Name	Description	NRHP Status
44AX0028	Alexandria Canal	Nineteenth-century canal	Undetermined
44AX0055	Four Mile Run Aqueduct	Nineteenth-century aqueduct to cross Potomac R.	Undetermined
44AX0194	--	Late Woodland period lithic scatter	Undetermined
44AX0204	--	Late Woodland period lithic scatter and nineteenth-century domestic site	Undetermined
44AX0207	Campsite 1, Am. Wagon Train	Eighteenth-century temporary camp site	Undetermined
44AX0220 *	--	Eighteenth- to twentieth-century domestic midden with prehistoric component	Potentially eligible
44AX0221 *	--	Eighteenth- to twentieth-century domestic midden with prehistoric component	Potentially eligible
44AX0222 *	--	Nineteenth- to twentieth-century Belgian block pathway	Potentially eligible

*Tested and reported in AECOM (2013)

Avoidance and preservation in place were recommended for the three sites in the APE and tested during the Phase I archaeological survey for the proposed undertaking (AECOM 2013). If the sites could not be avoided, FTA recommended Phase II archaeological investigations. In a letter dated March 13, 2013, VDHR agreed with these recommendations (Appendix A).

Both the original and the revised APE cross the Alexandria Canal (44AX0028) at Potomac Greens Drive, near the southern end of the APE. The potential to impact this resource was assessed in the Phase I survey as follows:

> …the Alexandria Canal (44AX0028) likely intersects the southernmost limits of the APE for archaeology in the vicinity of the intersection of Slaters Lane and Portners Road in the City of Alexandria, Virginia. However, it should be noted that at this location in the APE for archaeology anticipated construction activities are limited to the use of existing surface streets for construction access and that all three approved Test Areas are more than 230 m (755 ft) from the mapped location of the Alexandria Canal. No archaeological resources associated with the Alexandria Canal (44AX0028) are anticipated in any of the approved Test Areas [AECOM 2013:21].

VDHR accepted this impact assessment to the Alexandria Canal (44AX0028) and it remains valid with the revised APE. Potomac Greens Drive will be used as an access road and there will be no impacts to previously undisturbed ground surfaces associated with this activity. Consequently, there is no potential to adversely affect the archaeological site.

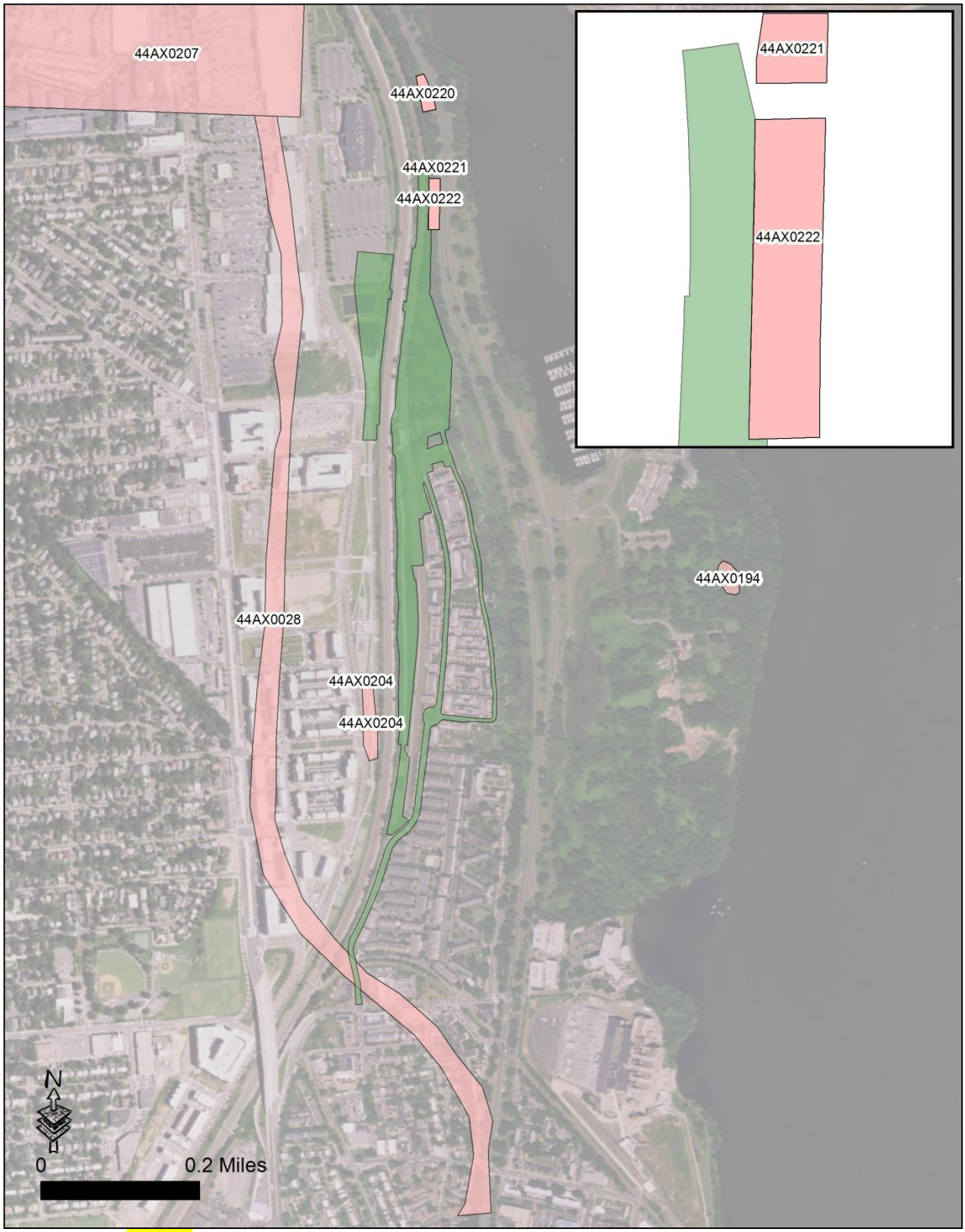

Figure 10. Revised APE (green) and archaeological resources (pink); (ESRI 2015), 1:16,000.

The potential to impact documented or undocumented archaeological sites in those portions of the revised APE not included in the original APE is summarized in Table 3 and discussed below.

Table 3. Assessment of Potential to Affect Undocumented Archaeological Resources

Map Key*	Proposed Use	Potential for archaeological resources
1	Rail berm	Low to nil, all proposed impacts within existing rail berm; avoidance measures will be implemented to protect adjacent resources during construction.
2	To use for construction staging, if needed	Low to nil for prehistoric or historic archaeological deposits: area part of Potomac Yard from the 1940s through the mid-1960s.
3	Playground to be used for construction staging and Carpenter Drive as a construction access route	Low to nil for prehistoric or historic archaeological deposits: playground area formerly occupied by runoff ponds for Potomac Yard or disturbed by existing roadway (Carpenter Drive).
4	Construction staging area	Low to nil for prehistoric or historic archaeological deposits: area of runoff ponds for Potomac Yard.
5	Construction staging area	Low to nil for prehistoric or historic archaeological deposits: area of extensive fly ash deposits.
6	Construction staging area	Low to nil for prehistoric or historic archaeological deposits: area of extensive fly ash deposits or disturbed by modern tennis court construction.

*to Figure 9

Area #1: AECOM defined two archaeological sites in 2013 (44AX0221 and 44AX0222) as the results of a single transect of shovel test pits excavated down the center of the original APE. Area #1 is on average 10 feet west of 44AX021 horizontally, and vertically is situated above the site on the existing rail berm. The western limit and a short segment of the southern limit of 44AX022 abut—but do not overlap—the revised APE (see **Figure 10**). However, the limits of the site as defined in 2013 extend 11 feet beneath the existing WMATA rail berm (**Figure 11**). The proposed undertaking (both construction and staging/access) will be limited to the fill package introduced for construction of the existing rail line; i.e., the existing berm (see **Figure 11**). Approximately 4.5 feet of fill protects the site at the edge of the APE. In review of the physical setting of the site, it is the understanding of FTA that the proposed undertaking will not adversely affect 44AX0222 and protective measures are recommended in Section 4.0 of this report to assure that it will not be impacted during construction.

Area #2: Area #2 has been part of the active Potomac Yard since the 1940s, with multiple rail alignments running through the area and no buildings or other activities indicated. The potential for the presence of near-surface, intact archaeological deposits is nil to low. Proposed use of this area as a construction staging area, with only minimal ground-surface impacts, will not affect archaeological resources (**Figure 12**).

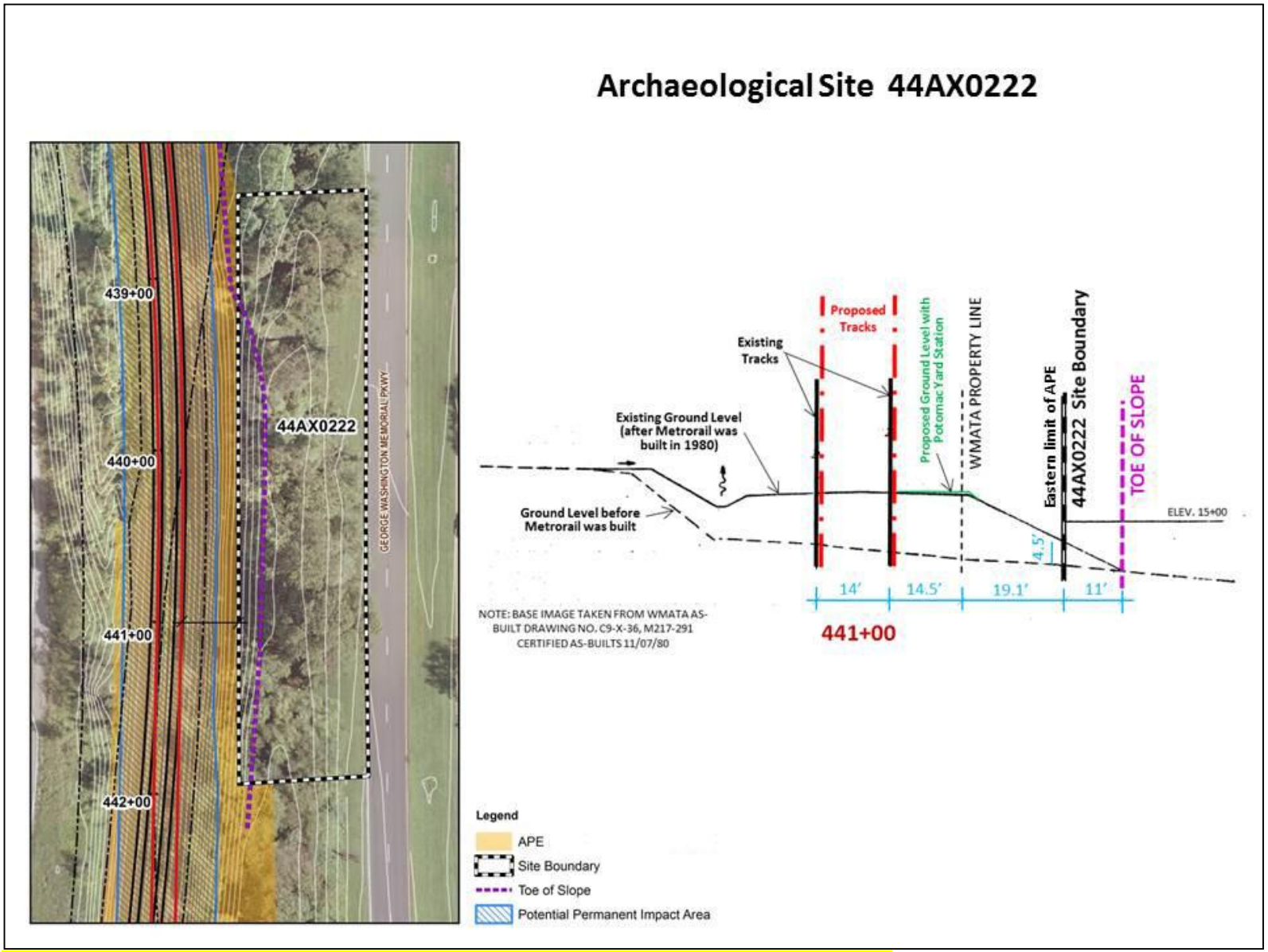

Figure 11. Vertical and horizontal profiles of project limits, existing rail berm, and limits of 44AX0222.

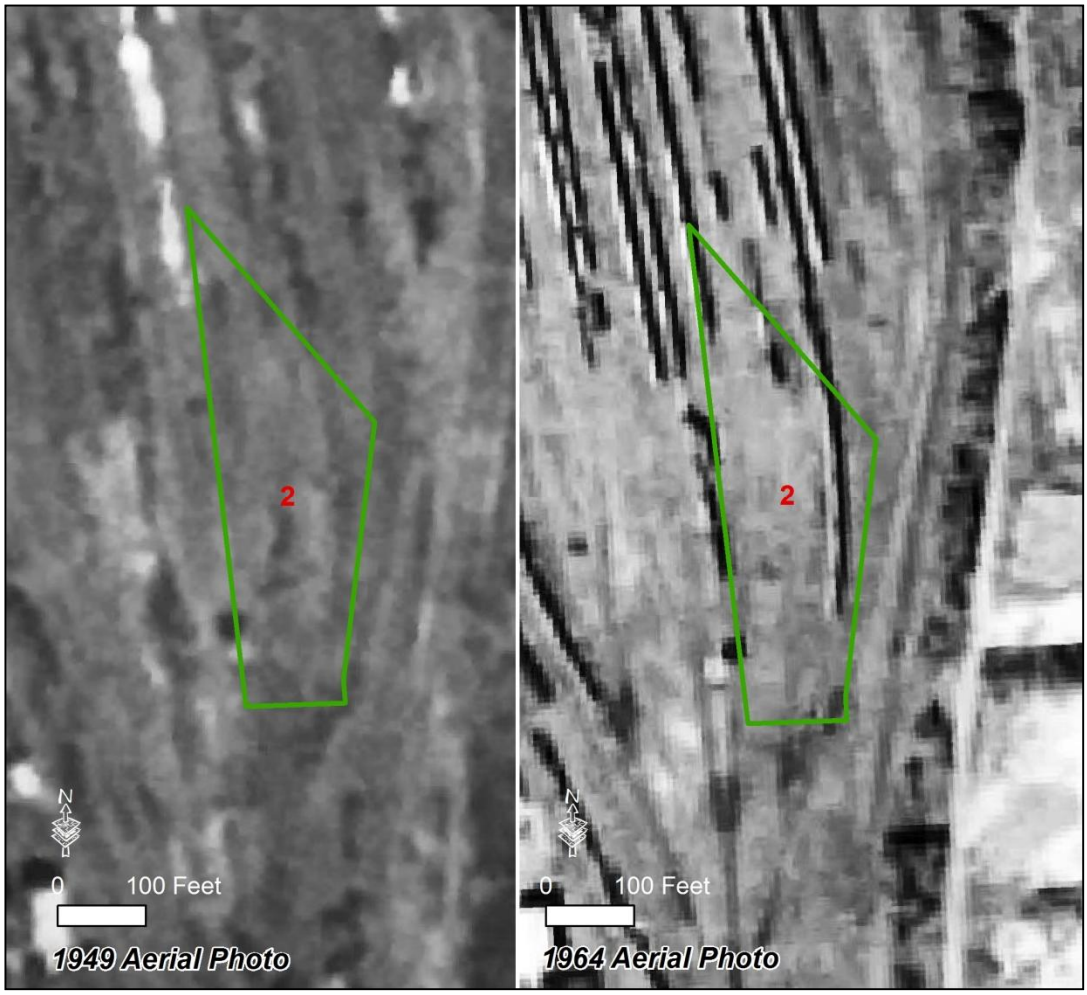

Figure 12. New APE Area #2 (green) within the Potomac Yard (EDR 2012), 1:2,000.

Areas #3 and #4: Area #3 is currently used as a playground and also includes the alignment of Carpenter Drive, to be used as an access route. Area #4 is an open green space. Israel (1981) previously surveyed both areas and assessed them to have low potential for archaeological deposits due to low, wet conditions and the presence of extensive fly ash deposits. This formerly low-lying area was used as a drainage pond for runoff from Potomac Yard and consisted of naturally occurring wetlands. Extensive deposits of fly ash also underlie this area, as described in the Phase I archaeological survey report (AECOM 2013:21). The limits of Areas #3 and #4 depicted on **Figure 13** indicate the limits of the area sampled by test borings; fly ash deposits may be more extensive. The potential for near-surface, intact archaeological deposits to be present in these areas is assessed to be low to nil. Proposed use of these areas for construction staging, with only minimal ground-surface impacts, will not affect archaeological resources.

Area #5: Area #5 is underlain by the same fly ash deposits described for Areas #3 and #4 above. The area was also host to an access road and other disturbances at the margins of the rail yard, as

seen in **Figure 14**. There is little to nil potential for intact, near-surface archaeological deposits. Use of the area for construction staging will not affect archaeological resources.

Area #6: Area #6 is currently used as for a playground and tennis courts and is proposed to be used for construction staging. No excavations will occur in this area. The northern half of the area is documented to contain fly ash deposits and the southern half has been developed with asphalt tennis courts (**Figure 15**). The potential for near-surface, intact archaeological deposits to be present in Area #6 is assessed to be low to nil. Proposed use of these areas for construction staging, with only minimal ground-surface impacts, will not affect archaeological resources.

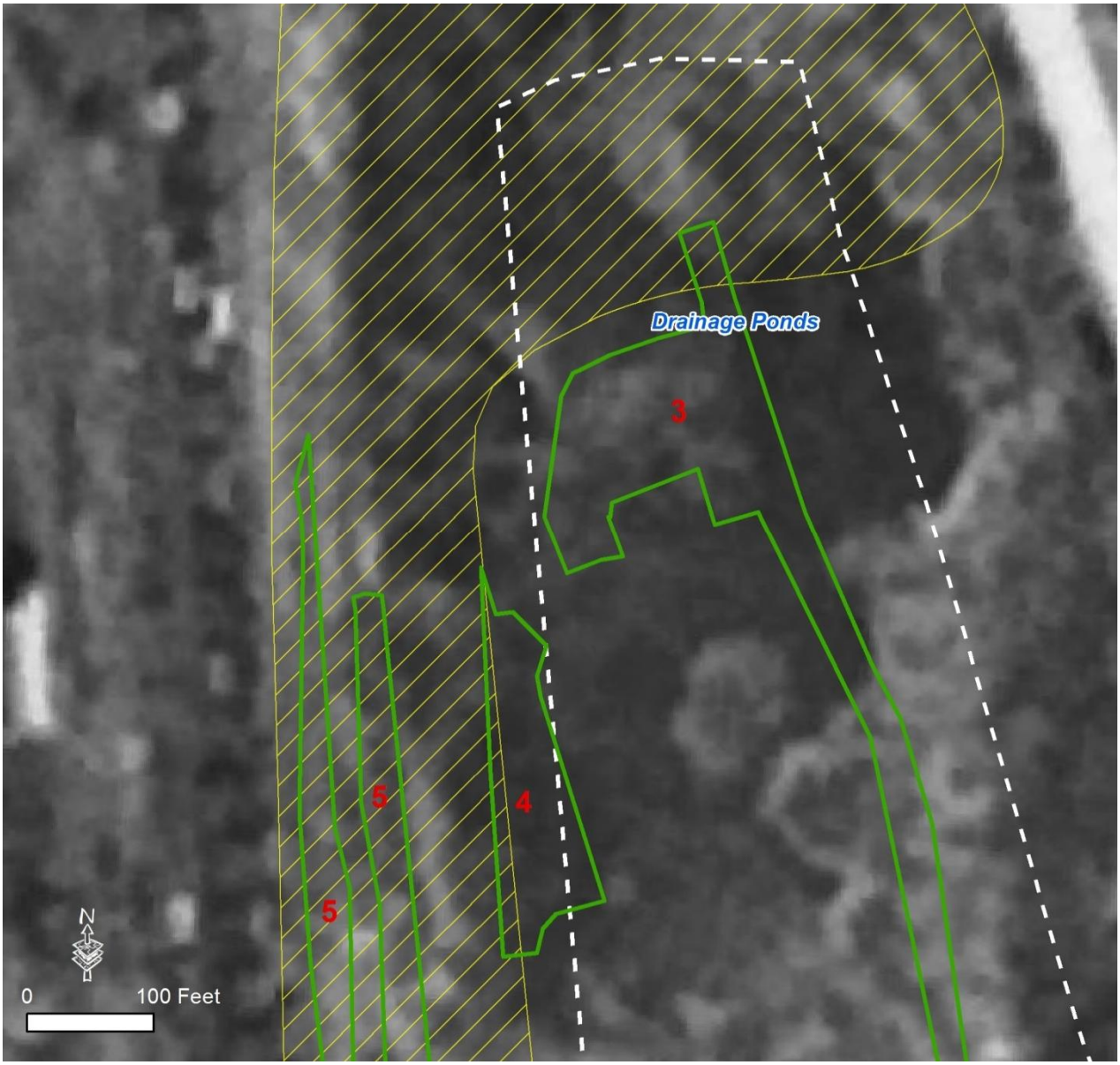

Figure 13. New APE Areas #3, #4 and #5 (green). Area of fly ash deposits (yellow) and Israel's 1981 study (dashed white) shown in relation to these new areas (EDR 2012), 1:500.

Figure 14. New APE Area #5 (green). Area of fly ash deposits shown in yellow (EDR 2012), 1:2,300.

Figure15. New APE Area #6 (green). Area of fly ash deposits shown in yellow (ESRI 2015), 1:900.

4.0 CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of FTA that the Preferred Alternative for the proposed undertaking, as it is currently designed, will have no impact on documented archaeological resources. If changes occur to construction staging areas as shown in **Figure 8**, further consultation between FTA, NPS, WMATA, the City of Alexandria, and VDHR will assess the need for any investigation, to comply with Section 106 of the National Historic Preservation Act. Any future modifications or expansion to the LOD will be included in a revised APE and assessed for archaeological sensitivity.

It is also the opinion of FTA that the previous Phase I archaeological survey conducted for this project was sufficient and that no additional, undocumented archaeological resources are located within the revised APE presented in this report. No further archaeological investigation is appropriate at this time.

This stipulation should be included in any memorandum of agreement:

- WMATA will develop a construction protection plan (CPP) in consultation with the FTA, NPS, VDHR, and the City of Alexandria to assure protection of archaeological resources within 100 feet of project impacts. Minimally, the CPP will include the following elements:
  - Language will be included in the project bid documents to make contractors aware that archaeologically sensitive areas are present near their work zone and must be avoided.
  - A professional archaeologist should supervise the installation of protective fencing in the area between the project LOD and the boundaries of 44AX0221 and 44AX0222. Given the relatively shallow depths of archaeological deposits in this area (0–11 centimeters), use of either jersey barriers or a footed fence is recommended, as opposed to in-ground fencing. If such barriers are used, protective surface matting must be laid underneath these types of barriers. The protective fencing should be installed prior to construction and maintained in place during the entirety of the construction project.
  - If any changes occur in the design of construction staging, and consultation between FTA, NPS, WMATA, the City of Alexandria, and VDHR recommends additional investigation, then professional archaeologists shall design and implement a Phase I archaeological survey to test sensitive areas to comply with Section 106 of the National Historic Preservation Act after acquiring any requisite excavation permits, if needed.
  - If construction plans change to include excavation in the APE adjacent to 44AX0222, a professional archaeologist will be present to monitor the excavations. A monitoring protocol will be developed prior to any excavations, if required, in consultation between FTA, NPS, WMATA, the City of Alexandria, and the VDHR.
- An unanticipated discoveries plan should be developed in consultation between FTA, NPS, WMATA, the City of Alexandria, and the VDHR prior to construction. The plan will include the necessary measures to adequately and appropriately identify, assess, and, if necessary, mitigate adverse impacts to resources discovered unexpectedly during construction. FTA, WMATA, and (if the discovery is made on NPS property) NPS will implement this plan in the event that any archaeological resources and/or human remains are encountered during construction of the undertaking. NPS staff will be immediately notified of discoveries occurring on NPS property, and FTA and WMATA will be notified on the same business day. Should the undertaking

uncover Native American human remains on federal property, FTA shall comply with the requirements of the Native American Graves Repatriation Act (NAGPRA, 25 USC 3001).

5.0 REFERENCES

AECOM

2013 *Phase I Archaeological Survey Report, Potomac Yard Metrorail Station Project, City of Alexandria, Virginia and Arlington County, Virginia*. DHR File No. 2012-0717. Document submitted to VDHR: Richmond, Virginia.

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Appendix A:

Project Correspondence