



General Services Administration and Department of Homeland Security

THE DHS HEADQUARTERS CONSOLIDATION AT ST. ELIZABETHS FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

WASHINGTON, DC

AUGUST 2020



FINAL

DEPARTMENT OF HOMELAND SECURITY HEADQUARTERS

CONSOLIDATION AT ST. ELIZABETHS

MASTER PLAN AMENDMENT 2

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

PREPARED BY:

**U.S. General Services Administration
National Capital Region**

IN COOPERATION WITH:

**Department of Homeland Security
National Capital Planning Commission
District of Columbia Department of Transportation**

August 28, 2020

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Final Supplemental Environmental Impact Statement
Department Of Homeland Security Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2

Responsible Agency:
U.S. General Services Administration
National Capital Region
1800 F Street, NW
Washington, DC 20407

In Cooperation With:
Department of Homeland Security
National Capital Planning Commission
District of Columbia Department of Transportation

The U.S. General Services Administration is studying the impacts resulting from implementation of the proposed amendment (Master Plan Amendment 2) to the Department of Homeland Security (DHS) Headquarters Consolidation Master Plan in accordance with the National Environmental Policy Act. Master Plan Amendment 2 re-evaluates development on the St. Elizabeths West Campus in Southeast Washington, DC, to accommodate 4.1 million gross square feet (gsf) of secure office and shared-use space, and 1.6 million gsf of associated parking. This Final Supplemental Environmental Impact Statement evaluates the No Action Alternative and two Action Alternatives.

Questions or comments on the Final Supplemental Environmental Impact Statement should be addressed to:

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If you wish to comment on the Final Supplemental Environmental Impact Statement, you may submit comments electronically or directly by mail. Comments must be postmarked or sent electronically by **September 28, 2020**. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made public at any time. While you may request in your comment that your personal identifying information be withheld from public review, we cannot guarantee that we will be able to do so.

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Executive Summary

INTRODUCTION

The U.S. General Services Administration (GSA) prepared this Final Supplemental Environmental Impact Statement (EIS) to assess impacts of the proposed amendment (Master Plan Amendment 2) to the Department of Homeland Security (DHS) Headquarters Consolidation Master Plan (Master Plan) at St. Elizabeths in Southeast Washington, DC. The No Action alternative and the proposed action alternatives at the St. Elizabeths West Campus are studied in detail in the Final Supplemental EIS.

The Final Supplemental EIS has been prepared pursuant to:

- The National Environmental Policy Act of 1969 (NEPA)
- Council on Environmental Quality (CEQ) regulations to implement NEPA contained in Code of Federal Regulation (CFR) 1500 to 1508
- GSA Public Buildings Service NEPA Desk Guide

The original Master Plan was completed in December 2008 and called for DHS Headquarters components to be co-located in 4.5 million gross square feet (gsf) of office and ancillary space along with 1.5 million gsf of associated parking on the St. Elizabeths West and East Campuses in Southeast Washington, DC (GSA, 2008a). The Master Plan was amended in 2012 (Master Plan Amendment 1) to specify the development of 750,000 gsf of the 4.5 million gsf office space, plus associated parking, on the St. Elizabeths East Campus (East Campus) North Parcel to house the Federal Emergency Management Agency (FEMA) (GSA, 2012b). Master Plan Amendment 2 eliminates development on the East Campus and re-evaluates development on the St. Elizabeths West Campus (West Campus) to accommodate 4.1 million gsf of secure office and shared-use space, and 1.6 million gsf of associated parking on the West Campus only.

ES.1 PURPOSE AND NEED

The GSA has prepared this Final Supplemental EIS to assess impacts of the proposed Master Plan Amendment 2 to the Master Plan) (GSA, 2008a; GSA, 2012). The proposed Master Plan Amendment 2 eliminates development on the East Campus and re-evaluates development on the West Campus to accommodate 4.1 million gsf of secure office and shared-use space, and 1.6 million gsf of associated parking on the West Campus only.

As this document is a supplement to the Master Plan Amendment 1 EIS (2012 EIS), it focuses on the impacts of building on the plateau site of the West Campus as well as impacts of constructing a facility on the Sweetgum Lane site on the western side of the West Campus as shown in Figure 1-1. This Final Supplemental EIS does not include impacts from site-specific actions already included in the 2008 Record of Decision (ROD) for the 2008 Final EIS on the St. Elizabeths Campus Master Plan for the Consolidated Headquarters of the Department of Homeland Security (2008 EIS).

GSA's purpose for this proposed action is to support the continued consolidation of the DHS Headquarters offices at the West Campus. The proposed action is needed for efficiency, to reflect the current condition of the historic buildings, to reduce costs, and to accelerate completion of the DHS consolidation.

ES.2 ALTERNATIVES

GSA has developed alternatives to construct 1.2 million gsf of secure office space on the plateau site, and 175,000 gsf of secure office space on the Sweetgum Lane site. The alternative development process resulted in the following alternatives being studied in detail in the Final Supplemental EIS.

ES.2.1 No Action Alternative

No Action—GSA would develop the West Campus as described in the Master Plan as approved by NCPC on January 8, 2009. This would provide for the following on St. Elizabeths:

- Development of 1,141,133 gsf of office and related space on the plateau site
- No development on the Sweetgum Lane site
- Parking at a ratio of one space for every four employees (1:4) resulting in 1.3 million gsf of parking above and below grade

The development of office space and parking on the North Parcel of the East Campus, originally included in Master Plan Amendment 1, is no longer feasible and not part of the No Action Alternative.

ES.2.2 Action Alternatives

Alternative A—GSA would develop the plateau and Sweetgum Lane sites on the West Campus as follows:

- 1.2 million gsf of secure office space within the plateau site organized into three separate office structures
- 175,000 gsf of office space on the Sweetgum Lane site

Alternative B—GSA would develop the plateau and Sweetgum Lane sites on the West Campus as follows:

- 1.2 million gsf of secure office space within the plateau site in two separate office structures with enclosed courtyards
- 175,000 gsf of office space on the Sweetgum Lane site

Alternative A and Alternative B would each include the following improvements:

- An additional 1,014 employee parking spaces on the West Campus resulting in a 1:4 parking ratio
- Sidewalk along streets and walkways between buildings
- Specific improvements to the ravine including enhanced pedestrian connections and landscaping
- Engineering for stabilization of steep slopes including building foundations
- Realignment of site drainages and landscaping in response to building design
- Shuttle bus drop-off locations
- Shipping/receiving areas for buildings
- Electric power, communications, and utility corridors designed for buildings and site improvements
- Stormwater management controls

ES.3 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Potential direct, indirect, and cumulative impacts associated with each of the alternatives are assessed in this Final Supplemental EIS. A comparison of these impacts for each alternative is provided below. Detailed information on impacts is located in Chapter 4, Environmental Consequences.

DHS Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2

Issue	No Action Alternative	Alternatives A and B
Natural Resources		
<p>Geology, Topography, and Soils (Section 4.2.1)</p>	<ul style="list-style-type: none"> • No impacts to geology • Direct, long-term, negligible, adverse impacts to topography from grading and construction activities • Direct, long-term, minor, adverse impact from removal of soils • Total soil disturbance of 6 acres • Direct, long-term, negligible adverse impact from soil erosion • No indirect impact to geology and topography • Indirect, minor, adverse impact from soil erosion • Indirect, long-term, major, adverse impact from the risk of future slope failure • Minor, long-term, adverse, cumulative impacts when combined with planned development on the West Campus and the surrounding vicinity 	<ul style="list-style-type: none"> • No impacts to geology • Direct, long-term, minor adverse impacts to topography • Direct and indirect, long-term, minor, adverse impacts from the removal of soils • Disturbance of 1 acre of soil by demolition • Total soil disturbance from construction of 8 acres under Alternative A and 9 acres under Alternative B • Direct, long-term, moderate, adverse impacts due to soil erosion and risk of slope failure • No indirect impacts to geology • No indirect impacts to topography • Indirect, beneficial impacts from the reduction in the potential for slope failure and soil erosion • Minor, long-term, adverse, cumulative impacts when combined with planned development on the West Campus and the surrounding vicinity
<p>Groundwater (Section 4.2.2)</p>	<ul style="list-style-type: none"> • Direct, long-term, minor adverse impact from the potential to intercept the perched groundwater table from construction of buildings • Direct, long-term, minor, adverse impacts to building from potential groundwater infiltration • Indirect, long-term, minor, adverse impacts from an increase in impervious surface • Increase of impervious surface by 4 acres • Negligible, long-term, adverse, cumulative impacts to groundwater when combined with other past and future projects 	<ul style="list-style-type: none"> • Direct, long-term, minor adverse impact from the potential to intercept the perched groundwater table from construction of buildings • Direct, long-term, minor, adverse impacts to building from potential groundwater infiltration • Indirect, long-term, minor, adverse impacts from an increase in impervious surface • Increase of impervious surface by 4 acres under Alternative A and 3 acres under Alternative B • Negligible, long-term, adverse, cumulative impacts to groundwater when combined with other past and future projects

**DHS Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2**

Issue	No Action Alternative	Alternatives A and B
Surface Water (Section 4.2.3)	<ul style="list-style-type: none"> • No direct impacts to surface water • Indirect, short and long-term, negligible, adverse impacts to water quality • No long-term impacts to the perennial stream and adjacent wetlands along the southwest property boundary • 57% increase in impervious surface in the Study Area; 0.032% increase in the Lower Anacostia River Watershed; and 0.014% increase in the Anacostia River Watershed • Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to surface water impacts from other past, present, and future projects 	<ul style="list-style-type: none"> • No direct impacts to surface water • Indirect, short-term, negligible, adverse impacts to water quality from construction activities • Indirect, long-term, negligible, adverse impacts to surface water • No long-term impacts to the perennial stream and adjacent wetlands along the southwest property boundary • 57% increase in impervious surface in the Study Area under Alternative A and 43% increase under Alternative B • 0.032% increase in impervious surface in the Lower Anacostia River Watershed under Alternative A and 0.024% increase under Alternative B • 0.014% increase in impervious surface in the Anacostia River Watershed under Alternative A and 0.011% increase under Alternative B • Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to surface water impacts from other past, present, and future projects
Vegetation (Section 4.2.4)	<ul style="list-style-type: none"> • No direct impacts to vegetation or specimen trees on Sweetgum Lane site • Direct, long-term, moderate, adverse impacts from the removal of vegetation on the plateau site; Removal of 3.5 acres of vegetation and 7 specimen trees • Beneficial impacts from landscaping • No indirect impacts to vegetation • Minor, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • No direct impacts specimen trees on Sweetgum Lanes site • Direct, long-term, moderate, adverse impacts from the removal of vegetation on the plateau and Sweetgum Lane sites; Removal of 4 acres of vegetation and 9 specimen trees under both Alternative A and B • Beneficial impacts from landscaping • No indirect impacts to vegetation • Minor, long-term, adverse, cumulative impacts

**DHS Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2**

Issue	No Action Alternative	Alternatives A and B
Wildlife (Section 4.2.5)	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impacts to wildlife during construction from noise and/or displacement • Direct, long-term, minor, adverse impacts from habitat loss • Direct, short- and long-term, minor, adverse impacts on migratory birds from removal of forest • Indirect, long-term, minor, adverse impacts from loss of habitat • Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to vegetation impacts from other past, present, and future projects 	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impacts to wildlife during construction from noise and/or displacement of wildlife • Direct, long-term, minor, adverse impacts from habitat loss • Direct, short- and long-term, minor, adverse impacts on migratory birds from removal of forest • Indirect, long-term, moderate, adverse impacts from loss of habitat • Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to vegetation impacts from other past, present, and future projects
Cultural Resources		
Historic Properties and Buildings (Section 4.3.1)	<ul style="list-style-type: none"> • Beneficial impacts from the rehabilitation of contributing buildings • Direct, long-term, moderate, adverse impacts on the historic fabric of the buildings • Direct, long-term, major adverse impacts on the overall setting, feeling, and association of the West Campus as a residential treatment facility • Indirect, long-term, minor to major, adverse impacts to views and vistas • Major, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • Beneficial impacts from the rehabilitation of contributing buildings • Direct, long-term, minor to moderate, adverse impact on the design, workmanship, setting, feeling, and association of buildings • Under Alternative B, proposed buildings located farther from the ravine; adverse impact is lessened when compared to Alternative A • Direct, long-term, major, adverse impacts from the removal of 6 contributing buildings and the visual zone of the South Lawn • Indirect, long-term, moderate, adverse impacts on views from Congress Heights • Major, long-term, adverse, cumulative impacts
Landscape Resources (Section 4.3.2)	<ul style="list-style-type: none"> • Direct, long-term, major, adverse impacts on the St. Elizabeths cultural landscape • Direct, long-term, major, adverse impacts to views and vistas • Major, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • Adverse impacts intensified from the 2008 EIS; direct, long-term, major, adverse impacts on the Power House ravine more intense under Alternative A • Direct, long-term, major, adverse impacts to historic vehicular and pedestrian circulation on the campus • Direct, long-term, major, adverse impacts to views and visual zones on the plateau site from new construction • Direct, long-term, moderate, adverse impacts of views of the Sweetgum Lane site • Major, long-term, adverse, cumulative impacts

**DHS Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2**

Issue	No Action Alternative	Alternatives A and B
Social And Economic Resources		
Land Use Planning and Zoning (Section 4.4.1)	<ul style="list-style-type: none"> • No direct or indirect impacts on zoning or land use planning • No cumulative impacts 	<ul style="list-style-type: none"> • Beneficial impacts on land use planning and zoning • No direct adverse impacts to land use planning and zoning • No indirect impacts to land use planning, and zoning • No cumulative impacts
Population and Housing (Section 4.4.2)	<ul style="list-style-type: none"> • No direct impacts to population and housing • Indirect, long-term, minor, adverse impact on housing stocks from the relocation of employees • Negligible, long-term, adverse, cumulative impacts when combined with the cumulative impacts of other past, present, and future project 	<ul style="list-style-type: none"> • No direct impacts to population and housing • Indirect, long-term, minor, adverse impact on housing stocks from the relocation of employees • Negligible, long-term, adverse, cumulative impacts when combined with the cumulative impacts of other past, present, and future project
Environmental Justice (Section 4.4.3)	<ul style="list-style-type: none"> • No direct, adverse impacts to environmental justice communities • Indirect, short-term, negligible, adverse impacts to local communities • Beneficial impacts from the removal of hazardous materials • Beneficial cumulative impacts from remediation of contamination within the plateau site 	<ul style="list-style-type: none"> • No disproportional direct, adverse impacts to low-income populations, minority residents, elderly, or children • Indirect, short-term, negligible, adverse impacts to local communities • Beneficial impacts from the removal of hazardous materials • Beneficial cumulative impacts from remediation of contamination within the plateau site
Economy, Employment, and Income (Section 4.4.4)	<ul style="list-style-type: none"> • Beneficial impacts from the expenditure of capital for the proposed development • Beneficial cumulative impacts 	<ul style="list-style-type: none"> • Beneficial impacts from an increase in employment and personal income • Indirect long-term, minor, and adverse impacts from construction and renovation • Beneficial cumulative impacts
Taxes and Revenue (Section 4.4.5)	<ul style="list-style-type: none"> • No direct impact to taxes and revenue. • Beneficial impacts from an increase in tax revenue during construction • Beneficial cumulative impacts 	<ul style="list-style-type: none"> • No direct impact to taxes and revenue • Beneficial impacts from an increase in tax revenue during construction • Beneficial cumulative impacts
Community Services (Section 4.4.6)	<ul style="list-style-type: none"> • No direct impacts to community services • Indirect, long-term, minor, adverse impacts from a modest increase in calls for service • Minor, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • No direct impacts to community services • Indirect, long-term, minor, adverse impacts from a modest increase in calls for service • Minor, long-term, adverse, cumulative impacts

**DHS Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2**

Issue	No Action Alternative	Alternatives A and B
Community Facilities (Section 4.4.7)	<ul style="list-style-type: none"> No direct impacts to community facilities Indirect, long-term, negligible, adverse impact from an increase in use of community facilities Negligible, long-term, adverse, cumulative impacts when combined with the impacts of other past, present, and future projects 	<ul style="list-style-type: none"> No direct impacts to community facilities Indirect, long-term, negligible, adverse impact from an increase in use of community facilities Negligible, long-term, adverse, cumulative impacts when combined with the impacts of other past, present, and future projects
Air Quality		
Air Quality (Section 4.5)	<ul style="list-style-type: none"> Direct, short- and long-term, minor, adverse impacts due to increase in traffic volumes and increase in mobile source emissions Minor, short- and long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> Direct, short-term, minor, adverse impacts from construction emissions Direct, long-term, minor, adverse impacts from stationary sources No adverse impacts from vehicle emissions No additional MSAT impacts compared to Master Plan Amendment 1 Total VOC and NOx emissions below <i>de minimis</i> thresholds Long-term, minor, adverse impacts from operation of the CUP and increase in traffic volumes No increase in GHG compared to Master Plan Amendment 1 Minor, short- and long-term, adverse, cumulative impacts
Noise		
Noise (Section 4.6)	<ul style="list-style-type: none"> No new noise impacts Minor, short- and long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> Short- and long-term, minor, adverse impacts No new traffic noise impacts Minor, short- and long-term, adverse, cumulative impacts
Transportation		
Transportation (Section 4.7)	<ul style="list-style-type: none"> Long-term, minor, adverse impacts to traffic conditions in the vicinity of St. Elizabeths Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> Long-term, minor, adverse impacts to traffic conditions in the vicinity of St. Elizabeths Minor, long-term, adverse, cumulative impacts

**DHS Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2**

Issue	No Action Alternative	Alternatives A and B
Utilities		
Electrical Service (Section 4.8.1)	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impacts from disruptions in electrical service • Direct, long-term, minor, adverse impacts from a slight increase in electrical demand • Indirect, negligible, adverse impacts to regional electrical service • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impacts from disruptions in electrical service • Direct, long-term, minor, adverse impacts from a slight increase in electrical demand • Indirect, negligible, adverse impacts to regional electrical service • Minor, long-term, adverse cumulative impacts
Natural Gas Service (Section 4.8.2)	<ul style="list-style-type: none"> • Direct, short-term, negligible, adverse impacts from non-discernable disruption to onsite natural gas service during construction • Direct, long-term, minor, adverse from an increase in demand • Indirect, negligible, adverse impacts 	<ul style="list-style-type: none"> • Direct, short-term, negligible, adverse impacts from non-discernable disruption to onsite natural gas service during construction • Direct, long-term, minor, adverse from an increase in demand • Indirect, negligible, adverse impacts
Water Service (Section 4.8.3)	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in water service during construction • Direct, long-term, minor, adverse impacts from an increase in water demand • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in water service during construction • Direct, long-term, minor, adverse impacts from an increase in water demand • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts
Sanitary Sewer System (Section 4.8.4)	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in sewer service during construction • Direct, long-term, minor, adverse impacts from an increase in sewage treated by DC Water • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in sewer service during construction • Direct, long-term, minor, adverse impacts from an increase in sewage treated by DC Water • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts
Solid Waste Management (Section 4.8.5)	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from increases in solid waste during construction • Direct, long-term, minor, adverse impacts from an increase in solid waste • Indirect, minor, adverse impacts from an increase in the waste stream at the Covanta Waste to Energy Plant • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from increases in solid waste during construction • Direct, long-term, minor, adverse impacts from an increase in solid waste • Indirect, minor, adverse impacts from an increase in the waste stream at the Covanta Waste to Energy Plant • Minor, long-term, adverse cumulative impacts

**DHS Headquarters Consolidation at St. Elizabeths
Master Plan Amendment 2**

Issue	No Action Alternative	Alternatives A and B
Environmental Contamination		
Environmental Contamination (Section 4.9)	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impact from a slight, but detectable, increase of environmental contaminants sent to EPA-approved landfills • Beneficial impacts from removal of hazardous materials in renovated buildings and removal of fly ash and contaminated soils • Beneficial cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impact from a slight, but detectable, increase of environmental contaminants sent to EPA-approved landfills • Beneficial impacts from removal of hazardous materials in renovated buildings and removal of fly ash and contaminated soils • Beneficial cumulative impacts

Table of Contents

Executive Summary.....	i
Introduction	ii
1. Purpose of and Need for the Proposed Action	1-1
1.1 Purpose and Need for the Proposed Action	1-1
1.2 GSA Mission	1-1
1.3 Department of Homeland Security Mission	1-2
1.4 DHS Headquarters Consolidation Master Plan	1-3
1.5 St. Elizabeths	1-5
1.6 Applicable Review Requirements	1-6
1.6.1 <i>National Environmental Policy Act</i>	1-6
1.6.2 <i>National Historic Preservation Act</i>	1-10
1.6.3 NCPD Review	1-13
1.6.4 CFA Review.....	1-13
2. Alternatives	2-1
2.1 Alternatives Development Process.....	2-1
2.2 Site Considerations	2-2
2.2.1 National Historic Landmark Status.....	2-2
2.2.2 Views.....	2-6
2.2.3 Natural Resources	2-6
2.2.4 Contamination	2-7
2.3 No Action Alternative.....	2-7
2.4 Action Alternatives Considered in this Supplemental EIS.....	2-9
2.4.1 Alternative A	2-10
2.4.2 Alternative B (Preferred Alternative).....	2-13
2.5 Alternatives Considered and Eliminated from Detailed Study	2-16
2.5.1 Gate 1 Site	2-17
2.5.2 Warehouse Site	2-18
2.5.3 Eagle Zone Site	2-19
2.6 Identification of the Preferred Alternative	2-19
3. Affected Environment	3-1
3.1 ISSUES ELIMINATED FROM DETAILED STUDY	3-3
3.1.1 Coastal Zone Management	3-3
3.1.2 Floodplain Management.....	3-3

3.1.3	Aquatic Biota.....	3-5
3.1.4	Protected Species.....	3-5
3.1.5	Archaeological Resources	3-6
3.2	Natural Resources.....	3-6
3.2.1	Geology, Topography, and Soils.....	3-7
3.2.2	Groundwater.....	3-11
3.2.3	Surface Water	3-12
3.2.4	Vegetation.....	3-16
3.2.5	Wildlife	3-19
3.3	Cultural Resources	3-19
3.3.1	Area of Potential Effects (APE).....	3-19
3.3.2	Historic Context.....	3-23
3.3.3	Historic Properties in the Primary APE	3-24
3.3.4	Landscape Resources.....	3-30
3.3.5	Historic Properties in the Secondary APE	3-36
3.4	Social and Economic Resources	3-37
3.4.1	Land Use Planning and Zoning	3-37
3.4.2	Population and Housing.....	3-54
3.4.3	Environmental Justice	3-60
3.4.4	Economy, Employment, and Income	3-61
3.4.5	Taxes and Revenue	3-63
3.4.6	Community Services.....	3-65
3.4.7	Community Facilities.....	3-68
3.5	Air Quality	3-72
3.5.1	Clean Air Act and National Ambient Air Quality Standards	3-73
3.5.2	Background Levels of Criteria Pollutants	3-74
3.5.3	Stationary Source Permitting Requirements	3-75
3.5.4	Air Toxics	3-76
3.5.5	Greenhouse Gases	3-77
3.6	Noise	3-78
3.6.1	Regulatory Review	3-78
3.6.2	Existing Noise	3-79
3.7	Transportation	3-84
3.7.1	Roadway Network.....	3-84
3.7.2	Local Transit Facilities and Service.....	3-92

3.7.3	Pedestrian and Bicycle Conditions	3-93
3.7.4	Existing Traffic Operations and Capacity Analysis	3-95
3.8	Utilities	3-101
3.8.1	Electrical Service	3-101
3.8.2	Natural Gas Service	3-102
3.8.3	Water Service	3-102
3.8.4	Sanitary Sewer System	3-102
3.8.5	Solid Waste Management	3-103
3.9	Environmental Contamination	3-103
3.9.1	Recognized Environmental Conditions	3-103
3.9.2	Other Hazardous Materials	3-105
4.	Environmental Consequences	4-1
4.1	Impact Analysis	4-1
4.2	Natural Resources	4-2
4.2.1	Geology, Topography, and Soils	4-2
4.2.2	Groundwater	4-8
4.2.3	Surface Water	4-11
4.2.4	Vegetation	4-15
4.2.5	Wildlife	4-19
4.3	Cultural Resources	4-23
4.3.1	Historic Properties in the Primary APE	4-24
4.3.2	Landscape Resources	4-27
4.4	Social and Economic Resources	4-34
4.4.1	Land Use Planning and Zoning	4-34
4.4.2	Population and Housing	4-46
4.4.3	Environmental Justice	4-48
4.4.4	Economy, Employment, and Income	4-51
4.4.5	Taxes and Revenue	4-54
4.4.6	Community Services	4-56
4.4.7	Community Facilities	4-59
4.5	Air Quality	4-61
4.6	Noise	4-68
4.7	Transportation	4-79
4.8	Utilities	4-89
4.8.1	Electrical Service	4-89

4.8.2	Natural Gas Service	4-92
4.8.3	Water Service	4-94
4.8.4	Sanitary Sewer System	4-97
4.8.5	Solid Waste Management.....	4-99
4.9	Environmental Contamination.....	4-102
4.10	Cumulative Impacts	4-105
4.10.1	Assessment Methodology.....	4-106
4.10.2	Past, Present, and Reasonably Foreseeable Future Actions.....	4-106
4.10.3	Natural Resources	4-108
4.10.4	Cultural Resources	4-111
4.10.5	Social and Economic Resources	4-111
4.10.6	Air Quality	4-113
4.10.7	Noise	4-115
4.10.8	Transportation	4-115
4.10.9	Utilities	4-116
4.10.10	Environmental Contamination	4-117
5.	Summary of Impacts	5-1
6.	References.....	6-1
7.	Acronyms	7-1
8.	List of Preparers	8-1
9.	Distribution List.....	9-1

Appendices

Appendix A	Scoping Report
Appendix B	Air Quality Report
Appendix C	Noise Report
Appendix D	Transportation Technical Report
Appendix E	Transportation Management Plan
Appendix F	Final Memorandum of Agreement
Appendix G	Consulting Party Meeting Minutes
Appendix H	Draft SEIS Notices of Availability and Draft SEIS Comment/Responses

List of Figures

Figure 1-1	St. Elizabeths West Campus Development Project Status.....	1-5
Figure 1-2	Master Plan Amendment 2 Study Areas.....	1-7
Figure 2-1	Historic Buildings near the Plateau Site and Sweetgum Lane Site	2-5
Figure 2-2	No Action Alternative.....	2-8
Figure 2-3	Alternative A	2-12
Figure 2-4	Alternative A—Birds-Eye View.....	2-13

Figure 2-5	Alternative B.....	2-15
Figure 2-6	Alternative B—Birds-Eye View	2-16
Figure 2-7	Alternatives Considered and Eliminated from Detailed Study	2-17
Figure 2-8	Gate 1 Site Test Fit	2-18
Figure 2-9	Warehouse Site Test Fit	2-18
Figure 2-10	Eagle Zone Site Test Fit	2-19
Figure 3-1	Project Area.....	3-2
Figure 3-2	FEMA Floodplain Map.....	3-4
Figure 3-3	Topography on the West Campus.....	3-9
Figure 3-4	Soils on the West Campus Based on the NRCS Soil Survey.....	3-10
Figure 3-5	Surface Water Features near the West Campus.....	3-15
Figure 3-6	Forested Areas on the West Campus.....	3-17
Figure 3-7	Specimen Trees on the Plateau and Sweetgum Lane Sites	3-18
Figure 3-8	Primary APE for Master Plan Amendment 2.....	3-21
Figure 3-9	Secondary APE for Master Plan Amendment 2	3-22
Figure 3-10	Site Parcel Diagram from 2008 St. Elizabeths Master Plan.....	3-25
Figure 3-11	St. Elizabeths Location Plan for Landscape Contributing Features from 2009 Cultural Landscape Report.....	3-31
Figure 3-12	St. Elizabeths Tree Protection Areas	3-35
Figure 3-13	Existing Land Use on the West Campus and Surrounding Areas	3-50
Figure 3-14	Proposed Future Land Use on the West Campus and Surrounding Areas	3-51
Figure 3-15	Existing Zoning in the Areas Surrounding the West Campus.....	3-52
Figure 3-16	Census Tracts at the West Campus and Surrounding Areas.....	3-56
Figure 3-17	Unemployment Trends in the District of Columbia and the Vicinity of the West Campus	3-63
Figure 3-18	Noise Modeling Locations—2008 EIS and 2012 EIS.....	3-81
Figure 3-19	Location of 2019 Noise-Sensitive Land Uses.....	3-85
Figure 3-20	Planned East Campus Development	3-86
Figure 3-21	Intersections evaluated within the Transportation Study Area.....	3-87
Figure 3-22	Roadway Functional Classification in St. Elizabeths Area	3-91
Figure 3-23	Contamination Areas on the West Campus.....	3-106
Figure 4-1	2012 EIS Transportation Analysis Study Area	4-75

List of Tables

Table I-1	Final Supplemental EIS Organization	I-ii
Table 1-1	Consulting Party Meetings	1-12

Table 2-1	Historic Buildings near the Plateau Site	2-3
Table 2-2	No Action Alternative.....	2-7
Table 2-3	Alternative A Proposed Development	2-11
Table 2-4	Alternative B Proposed Development	2-14
Table 3-1	Resource Areas and the Affected Environment.....	3-1
Table 3-2	Soil Types within the plateau and Sweetgum Lane sites	3-11
Table 3-3	Previously Completed and Ongoing Projects within Existing Buildings on the West Campus	3-23
Table 3-4	Potentially Affected Contributing Buildings in Site Parcel 1	3-26
Table 3-5	Potentially Affected Contributing Buildings in Site Parcel 2	3-28
Table 3-6	Potentially Affected Contributing Buildings in Site Parcel 4	3-29
Table 3-7	St. Elizabeths West Campus LPP Character-Defining Landscape Features for Overall Campus or Design Concept	3-32
Table 3-8	St. Elizabeths West Campus LPP Character-Defining Landscape Features Proximate to the Plateau Site in Landscape Unit 2 and Landscape Unit 4	3-33
Table 3-9	St. Elizabeths West Campus Landscape Preservation Plan Character-Defining Landscape Features Proximate to the Sweetgum Lane Site in Landscape Unit 1, 3, and 5	3-34
Table 3-10	Summary of Plans and Initiatives Affecting the West Campus and Surrounding Areas.....	3-43
Table 3-11	Summary of Zoning Categories in Surrounding Areas	3-53
Table 3-12	Planned Development.....	3-53
Table 3-13	West Campus and Surrounding Area Population Demographics	3-57
Table 3-14	West Campus and Surrounding Area Age Demographics.....	3-58
Table 3-15	West Campus and Surrounding Area Income, Poverty, and Renter—Occupied Housing Units	3-59
Table 3-16	Employment by Industry in DC and Census Tracts Including and Near the West Campus (by percent).....	3-62
Table 3-17	Metrobus Origin Destination Summary	3-66
Table 3-18	Crime Statistics for 2008 and 2018 for DC, the Seventh Police District, and PSA 703.....	3-67
Table 3-19	Childcare Facilities.....	3-69
Table 3-20	Religious Facilities within 0.5 Miles of the West Campus.....	3-72
Table 3-21	National Ambient Air Quality Standards.....	3-73
Table 3-22	Monitored Pollutant Concentrations in the District	3-75
Table 3-23	Noise Level Modeling Results from 2008 EIS Noise Analysis (dBA)	3-79
Table 3-24	Noise Level Modeling Results—2012 EIS [A-weighted decibels (dBA)]	3-79
Table 3-25	Roadway Classifications and Characteristics	3-90
Table 3-26	Sidewalk Assessment	3-93
Table 3-27	Existing AM and PM Peak-Hour Delay and LOS	3-95

Table 3-28	Lead-Based Paint Survey Results	3-107
Table 3-29	Asbestos Containing Materials (ACM) Survey Results	3-107
Table 3-30	Mercury Survey Results	3-108
Table 3-31	PCB Survey Results	3-108
Table 4-1	Impact Intensity Thresholds.....	4-2
Table 4-2	Impact Intensity Thresholds for Geology, Topography, and Soils	4-3
Table 4-3	Acres of Soils Disturbed	4-6
Table 4-4	Impact Intensity Thresholds for Groundwater	4-8
Table 4-5	Change in Impervious Surface.....	4-10
Table 4-6	Impact Intensity Thresholds for Surface Water	4-11
Table 4-7	Impact Intensity Thresholds for Vegetation	4-16
Table 4-8	Vegetation Removed by Alternative	4-18
Table 4-9	Impact Intensity Thresholds for Wildlife.....	4-20
Table 4-10	Impact Intensity Thresholds for Cultural Resources	4-24
Table 4-11	Impacts to Views and Vistas in the Secondary APE for No Action Alternative.....	4-25
Table 4-12	Impacts to Internal Campus Views from the No Action Alternative.....	4-28
Table 4-13	St. Elizabeths West Campus Landscape Overall Campus Design or Concept Character- Defining Features Impacted by Proposed Action	4-29
Table 4-14	St. Elizabeths West Campus Character-Defining Landscape Features Adversely Affected by the Proposed Action.....	4-30
Table 4-15	Proposed Additional Mitigation for New and Intensified Adverse Effects	4-32
Table 4-16	Impact Intensity Thresholds for Land Use Planning and Zoning.....	4-34
Table 4-17	Impact Intensity Thresholds for Population and Housing.....	4-46
Table 4-18	Impact Intensity Thresholds for Environmental Justice.....	4-48
Table 4-19	Impact Intensity Thresholds for Economy, Employment, and Income.....	4-51
Table 4-20	Industry Impacts for DC-MD-VA-WV (thousands of dollars) for Alternatives A and B (construction and renovation only)	4-53
Table 4-21	Impact Intensity Thresholds for Taxes and Revenues.....	4-54
Table 4-22	Impact Intensity Thresholds for Community Services	4-56
Table 4-23	Impact Intensity Thresholds for Community Facilities	4-59
Table 4-24	Impact Intensity Thresholds for Air Quality	4-62
Table 4-25	De Minimis Thresholds in Nonattainment Areas.....	4-67
Table 4-26	Impact Intensity Thresholds for Noise	4-69
Table 4-27	Noise Level Modeling Results 2008 EIS Noise Analysis (dBA).....	4-70
Table 4-28	Noise Level Modeling Results - 2012 EIS (dBA).....	4-71
Table 4-29	Noise Levels Associated with Outdoor Construction.....	4-77

Table 4-30	Impact Intensity Thresholds for Transportation	4-80
Table 4-31	2035 No Action vs. Action—AM Peak Hour Intersection Operations (Delay and LOS)	4-82
Table 4-32	2035 No Action vs. Action—PM Peak Hour Intersection Operations (Delay and LOS)	4-85
Table 4-33	Impact Intensity Thresholds for Electrical Service	4-90
Table 4-34	Impact Intensity Thresholds for Natural Gas Service.....	4-92
Table 4-35	Impact Intensity Thresholds for Water Service.....	4-94
Table 4-36	Estimated Water Demand.....	4-96
Table 4-37	Impact Intensity Thresholds for Sanitary Sewer	4-97
Table 4-38	Impact Intensity Thresholds for Solid Waste Management	4-99
Table 4-39	Impact Intensity Thresholds for Environmental Contamination	4-102
Table 4-40	West Campus Projects	4-106
Table 4-41	Reasonably Foreseeable Projects near the West Campus.....	4-108
Table 5-1	Impact Intensity Thresholds.....	5-1

List of Photos

Photo 2-1	Building 15.....	2-3
Photo 2-2	Building 52.....	2-3
Photo 2-3	Building 56 and 57.....	2-3
Photo 2-4	Building 60.....	2-3
Photo 2-5	Building 64.....	2-4
Photo 2-6	Building 66.....	2-4
Photo 2-7	Building 67.....	2-4
Photo 2-8	Building 68.....	2-4
Photo 2-9	Building 69.....	2-4

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Introduction

The U.S. General Services Administration (GSA) has prepared this Final Supplemental Environmental Impact Statement (EIS) to assess impacts of the proposed amendment (Master Plan Amendment 2) to the Department of Homeland Security (DHS) Headquarters Consolidation Master Plan (Master Plan) (GSA, 2008a; GSA, 2012a). DHS, the National Capital Planning Commission (NCPC), and the DC Department of Transportation (DDOT) are cooperating agencies in the preparation of this Final Supplemental EIS.

The original Master Plan was completed in December 2008 and called for DHS Headquarters components to be co-located in 4.5 million gross square feet (gsf) of office and ancillary space along with 1.5 million gsf of associated parking on the St. Elizabeths West and East Campuses in Southeast Washington, DC (GSA, 2008a). The Master Plan was amended in 2012 (Master Plan Amendment 1) to specify the development of 750,000 gsf of the 4.5 million gsf office space, plus associated parking, on the St. Elizabeths East Campus (East Campus) North Parcel to house the Federal Emergency Management Agency (FEMA) (GSA, 2012b). Master Plan Amendment 2 eliminates development on the East Campus and re-evaluates development on the St. Elizabeths West Campus (West Campus) to accommodate 4.1 million gsf of secure office and shared-use space, and 1.6 million gsf of associated parking on the West Campus only.

The *National Environmental Policy Act* of 1969 (NEPA) requires Federal agencies to prepare an EIS for actions that may significantly affect the quality of the human environment, which is defined as “the natural and physical environment and the relationship of people to that environment” (40 Code of Federal Regulations [CFR] 1508.14). GSA has prepared this Final Supplemental EIS to explain to the public and decision-makers the impacts on the environment including natural resources such as soils, surface waters, vegetation, wildlife, air quality and greenhouse gases, and climate change; social resources such as land-use planning, community services and facilities, economy and employment, noise, traffic and transportation, utilities, and site contamination; and historic properties such as historic structures and landscapes and archaeological resources.

This Final Supplemental EIS provides information on historic properties affected by Master Plan Amendment 2, as required by Section 106 of the *National Historic Preservation Act* (NHPA). This includes historic properties outside the West Campus that could be affected by views of the proposed development, noise, or traffic. More information on other laws, regulations, and review requirements with which GSA must comply is presented in Section 1.6, Applicable Review Requirements.

This Final Supplemental EIS examines the direct, indirect, and cumulative impacts associated with alternatives for modifying the Master Plan to consolidate DHS Headquarters components on the West Campus.

As this document is a supplement to the Master Plan Amendment 1 EIS (2012 EIS), it focuses on the impacts of building on the plateau site of the West Campus, as well as impacts of constructing a facility on the Sweetgum Lane site on the western side of the West Campus as shown in Figure 1-2. This Final Supplemental EIS does not include impacts from site-specific actions already included in the 2008 Record of Decision (ROD) for the 2008 Final EIS on the St. Elizabeths Campus Master Plan for the Consolidated Headquarters of the Department of Homeland Security (2008 EIS).

This Final Supplemental EIS focuses on the proposed changes to the Master Plan which include the following:

- The purpose of and need for the proposed action
- Background information on GSA’s mission, DHS, St. Elizabeths history and National Historic Landmark (NHL) status, and regulatory review requirements
- Alternatives for revising the Master Plan to meet the purpose of and need for the proposed action
- The affected environment (existing conditions) for resources including natural resources, historic properties, social and economic resources, air quality, noise, transportation, utilities, and environmental contamination
- Environmental consequences (impacts) associated with implementing Master Plan Amendment 2

The Final Supplemental EIS is organized in chapters as described in Table I-1.

Table I-1 Final Supplemental EIS Organization

Chapter	Contents
1. Purpose of and Need for the Proposed Action	The purpose of and need for the proposed action, background information, and relevant laws and regulatory approvals
2. Alternatives	Discussion of the No Action Alternative, Alternatives A and B, and alternatives considered and dismissed
3. Affected Environment	The existing conditions of the potentially affected environment
4. Environmental Consequences	The environmental consequences of implementing the alternatives including direct, indirect, and cumulative impacts
5. Summary of Impacts	Summary table of impacts
6. References	A list of references used in the Supplemental EIS
7. Acronyms	A list of acronyms used in the Supplemental EIS

Chapter	Contents
8. List of Preparers	Persons who prepared the Supplemental EIS
9. Distribution List	List of persons and organizations that received a copy of the EIS
Appendices: A. Scoping Summary B. Air Quality Report C. Noise Report D. Transportation Technical Report E. Final Transportation Management Plan (TMP) F. Final Section 106 Agreement G. Consulting Party Meeting Minutes H. Draft Supplemental EIS Public Outreach Materials and Comments	

The public is encouraged to review this document to learn more about Master Plan Amendment 2 and its potential impacts. The public is also encouraged to provide comments on the Final Supplemental EIS and the proposed action. Written comments on the Final Supplemental EIS may be sent to:

Attention: Mr. Paul Gyamfi
 Office of Planning and Design Quality
 Public Buildings Service – National Capital Region
 U.S. General Services Administration
 1800 F Street, NW, Room 4400
 Washington, DC 20407
Paul.Gyamfi@gsa.gov

If you wish to comment on the Final Supplemental EIS, you may submit comments electronically or directly by mail. Comments on the Final Supplemental EIS must be postmarked or sent electronically by September 28, 2020. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made public at any time. While you may request in your comment that your personal identifying information be withheld from public review, GSA cannot guarantee that such information will be withheld.

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1. Purpose of and Need for the Proposed Action

1.1 Purpose and Need for the Proposed Action

The proposed action assessed in this Final Supplemental EIS is to amend the DHS Master Plan to accommodate a total of 4.1 million gsf of secure office and shared-use space and 1.6 million gsf of associated parking.

GSA's purpose for this proposed action is to support the continued consolidation of the DHS Headquarters offices at the West Campus. The proposed action is needed for efficiency, to reflect the current condition of the historic buildings, to reduce costs, and to accelerate completion of the DHS consolidation.

1.2 GSA Mission

GSA is the lead agency in preparing this Final Supplemental EIS. GSA is responsible for fulfilling Federal agencies' real estate needs. In that capacity, when presented with an agency program such as the DHS Headquarters Consolidation, GSA rigorously explores various methods of delivering the agency's program requirements such as using space within GSA's inventory, acquiring land, and leasing space.

GSA is an independent Federal executive agency (40 United States Code [U.S.C.] 301). GSA's Public Buildings Service (PBS) works with other Federal agencies in determining and fulfilling those agencies' real estate needs. GSA's experience and expertise allow it to fulfill Federal agencies' real estate requirements effectively. GSA's knowledge results in time and cost savings for other Federal agencies and, ultimately, the American taxpayer.

Federal agencies give GSA information on their program and mission requirements. GSA then works with those agencies to develop and refine their real estate needs. GSA's familiarity with the market and available space, Federal procurement, and innovative and proven methods of space design results in the delivery of efficient work environments. Project requirements are based on the customer agency's needs, facility and parking requirements, and operational needs (GSA, 2008a). Through early joint planning, GSA works with agencies to shorten and simplify the delivery process and provide space at the best value to the Government.

GSA is authorized to acquire any site or an interest in a site that is deemed necessary to carry out GSA customers' needs and to assign space for an executive agency in any Federal Government-owned or -leased building (40 U.S.C. 3304; 40 U.S.C. 584).

In accordance with Section 1-106 of Executive Order (EO) 12072, Federal Space Management, “site selection and space assignments take into account the management needs for consolidation of agencies or activities in common or adjacent space in order to improve administration and management and effect economies” (EO, 1978).

EO 13006, Locating Federal Facilities on Historic Properties in Our Nation’s Central Cities, directs agencies that have a mission requirement to locate in an urban area to give first consideration to finding Federal facilities in historic buildings and districts within central business areas.

1.3 Department of Homeland Security Mission

DHS is the primary tenant at the West Campus and is a cooperating agency in the preparation of this Final Supplemental EIS. The DHS mission is “With honor and integrity, we will safeguard the American people, our homeland, and our values” (DHS, 2019a).

DHS has three core values (DHS, 2019b):

Integrity: “Service Before Self” - Each of us serves something far greater than ourselves. To our nation, we represent the President and the Congress. To the world, seeking to visit or do business with us, we are often the first Americans they meet. We will faithfully execute the duties and responsibilities entrusted to us, and we will maintain the highest ethical and professional standards.

Vigilance: “Guarding America” - We will relentlessly identify and deter threats that pose a danger to the safety of the American people. As a Department, we will be constantly on guard against threats, hazards, or dangers that threaten our values and our way of life.

Respect: “Honoring our Partners” - We will value highly the relationships we build with our customers, partners, and stakeholders. We will honor concepts such as liberty and democracy, for which America stands.”

The DHS organizational structure includes the following headquarters elements and operating components (DHS, 2019c; DHS, 2019d; DHS, 2019e):

- Office of the Secretary
- Office of the Executive Secretary (ESEC)
- Office of the Military Advisor
- Management Directorate

- Science and Technology Directorate (S&T)
- Office of Strategy, Policy, and Plans
- Office of the General Counsel (OGC)
- Office of Legislative Affairs (OLA)
- Office of Public Affairs (OPA)
- Office of Inspector General (OIG)
- Federal Law Enforcement Training Centers (FLETC)
- Countering Weapons of Mass Destruction Office (CWMD)
- Office of Partnership and Engagement (OPE)
- Office of Intelligence and Analysis (I&A)
- Office of Operations Coordination
- Office of Citizenship and Immigration Services Ombudsman
- Privacy Office
- Office for Rights and Civil Liberties (CRCL)
- Cybersecurity and Infrastructure Security Agency (CISA)
- U.S. Customs and Border Protection (CBP)
- U.S. Citizenship and Immigration Services (CIS)
- FEMA
- U.S. Coast Guard (USCG)
- U.S. Immigration and Customs Enforcement (ICE)
- U.S. Secret Service (USSS)
- Transportation Security Administration (TSA)

1.4 DHS Headquarters Consolidation Master Plan

DHS previously identified a need to consolidate a minimum critical mass of 4.5 million gsf of secure office space, plus parking, to meet the Department’s mission requirements for its consolidated Headquarters in furtherance of developing a more cost-effective, efficient, and functional real estate portfolio in the National Capital Region (NCR). In response, GSA analyzed alternative locations for the Headquarters, ultimately settling on the West Campus. In 2008, GSA prepared an EIS that assessed the impacts associated with various layouts for the Headquarters. The 2008 EIS included an alternative that placed the majority of the DHS Headquarters on the West Campus while placing one DHS component on the East Campus (GSA, 2008a).

GSA issued a ROD on December 16, 2008, to implement Alternative 5 (GSA, 2008b), which proposed the consolidation of 3.8 million gsf of secure office and shared-use space, plus parking, on the West Campus. The Master Plan was subsequently approved on January 8, 2009. Figure 1-1 illustrates projects that are planned, underway and completed in accordance with the 2008 Master Plan.

In 2013, the Douglas A. Munro Building opened on the southwest portion of the West Campus. Since that time, the Munro Building has served as the headquarters for the USCG. The 270,000 gsf Center Building, which serves as the headquarters for DHS, was occupied in April 2019.

Construction has also begun on the Interstate 295 (I-295)/Malcolm X Interchange improvements and the new access road through Shepherd Parkway to Gate 4 on the West Campus, actions which were studied in the 2012 EIS.

DHS will continue consolidating Headquarters' operations on the campus. DHS occupancy of and consolidation to the campus will continue consistent with the expiration of DHS leases across the NCR. GSA's decision to retro-fit and build-out the campus is substantially the same as DHS' decision to occupy and consolidate to the space. As a cooperating agency, DHS comments and concerns were continually and adequately addressed in this Supplemental EIS. The Supplemental EIS considered DHS' consolidation and occupancy of the campus at St. Elizabeths and future activities and operations associated therein, as well as the relinquishing, decommissioning, and excessing of disparate leases across the NCR and movement of its personnel and activities.



Source: ZGF Olin, 2019

Figure 1-1 St. Elizabeths West Campus Development Project Status

1.5 St. Elizabeths

St. Elizabeths is located in Ward 8 in Southeast Washington, DC. The site, which is an NHL, is in the Congress Heights community and overlooks Joint Base Anacostia-Bolling (JBAB) and the Anacostia River. The 176-acre West Campus is bounded by Barry Farm to the north, Martin Luther King Jr. Avenue SE to the east, Shepherd Parkway to the south, and I-295 to the west. The East Campus, located on the east side of Martin Luther King Jr. Avenue SE, is owned by the District of Columbia. Construction under Master Plan Amendment 2 is proposed on the plateau site and the Sweetgum Lane site on the West Campus (Figure 1-2).

St. Elizabeths was established as a “Government Hospital for the Insane” in 1852. The enabling legislation stated that the mission “shall be the most humane care and enlightened curative treatment of the insane.” The hospital opened in 1855 under the direction of Superintendent Dr. Charles H. Nichols. During the Civil War it was used as a hospital for wounded and convalescing soldiers. In 1916, the name was formally changed to St. Elizabeths Hospital. St. Elizabeths Hospital served as

a leader in the treatment of the mentally ill and cared for nearly 8,000 patients at its peak.

Its pioneering research and treatment served not just those with mental illness but also those with other medical problems such as malaria and tuberculosis (Millikan et al., 1990).

The entire St. Elizabeths Campus was under the jurisdiction of the U.S. Department of Health and Human Services (HHS) and its predecessors from its founding in 1852 until 1987. In 1987, HHS transferred the title of the East Campus and five buildings on the West Campus to the District of Columbia. This transfer was undertaken pursuant to Public Law (P.L.) 98-621, the Saint Elizabeths Hospital and District of Columbia Mental Health Services Act. The remainder of the West Campus remained under HHS jurisdiction until 2004, at which time GSA accepted responsibility for the care, custody, and accountability of this property (GSA, 2008a).

St. Elizabeths Hospital (both the East and West Campuses) was listed in the National Register of Historic Places (NRHP) on April 26, 1979. On March 7, 1991, the Secretary of the Interior designated St. Elizabeths Hospital as an NHL. The NHL designation covers 82 contributing resources on the East and West Campuses including buildings, landscapes, vistas of the river and city, and cemeteries. Both campuses were listed in the District of Columbia's Inventory of Historic Sites on May 26, 2005 (GSA, 2008a).

Designation of St. Elizabeths as an NHL recognizes its national significance and its exceptional value in illustrating the heritage of the United States in history, architecture, archaeology, engineering, and culture. The designation also signifies that the site possesses a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association.

1.6 Applicable Review Requirements

1.6.1 *National Environmental Policy Act*

NEPA is the Nation's legislative charter for the protection of the environment. NEPA requires Federal agencies to consider environmental issues in Federal agency planning and decision-making. NEPA requires Federal agencies to prepare an EIS for any major Federal action significantly affecting the quality of the human environment. Under NEPA, Federal agencies are required to (1) utilize a systematic, interdisciplinary approach in planning and in decision-making; and (2) include a detailed statement in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, in this case an EIS, that assesses the impacts of that action.



Source: ESRI ArcMap 2019 World Imagery Basemap

Figure 1-2 Master Plan Amendment 2 Study Areas

An EIS includes a detailed statement on environmental impacts of the proposed action, unavoidable adverse environmental effects, alternatives to the proposed action, the relationship between local short-term uses of the human environment and maintenance and enhancement of long-term productivity, and irreversible and irretrievable commitments of resources.

An agency is required to prepare a Supplemental EIS if:

- The agency makes substantial changes in the proposed action that are relevant to environmental concerns
- There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (40 CFR 1502.9)

A Supplemental EIS is prepared, circulated, and filed in the same fashion as a Draft or Final EIS.

As noted previously, GSA prepared an EIS in 2008 for the original Master Plan and a second EIS in 2012 to assess impacts associated with Master Plan Amendment 1. This Final Supplemental EIS incorporates the 2008 EIS and the 2012 EIS by reference and focuses on those areas where Master Plan Amendment 2 would result in different impacts from those discussed in the 2008 and 2012 EISs.

Public Involvement

GSA has involved the public in the decision-making process for the West Campus redevelopment since obtaining the property and beginning the original master planning effort in 2005. During the NEPA process for the 2008 Master Plan, 2012 Master Plan Amendment 1, and the proposed Master Plan Amendment 2, the public has had, and will continue to have, opportunities to comment on the redevelopment of the West Campus.

Title 40 CFR 1500.1(b) states, in part, “NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.”

Pursuant to the requirements of NEPA, Council on Environmental Quality (CEQ) regulations (40 CFR 1500–1508), and the GSA Public Buildings Service NEPA Desk Guide, GSA published a Notice of Intent (NOI) to prepare a Supplemental EIS in the Federal Register on November 19, 2018. The NOI was also published on November 18, 2018, in *The Washington Post*, *The Informer*, and *The Afro-American*.

From November 19, 2018, through December 19, 2018, the public was given an opportunity to participate in the scoping process for Master Plan Amendment 2. “Scoping” is a tool for identifying the issues that should be addressed in this Supplemental EIS and is also used as part of the Section 106 compliance process to identify historic properties and begin to assess potential effects. Public

participation during scoping helps define priorities and provides an avenue for stakeholders and communities to provide early input.

During the scoping process for Master Plan Amendment 2, a public meeting was held on November 29, 2018, at R.I.S.E. Demonstration Center on the St. Elizabeths East Campus during which comments and concerns were officially documented. The scoping period and meeting were announced in the newspapers with the NOI and were also announced on the project website at www.stelizabethsdevelopment.com/nepa.html. Appendix A contains a Scoping Summary documenting the scoping materials, the NOI for the EIS, and comments received during the public scoping period.

Key issues identified during scoping included:

- Pedestrian safety and circulation could be improved
- Disruptions to water service during construction should be minimized
- New buildings should focus on ease of access to bathrooms, offices on other floors, and offices in other buildings, and not solely historic preservation or architectural design. All employees should have natural light at their seats.
- Safety improvements should be made for employees outside the West Campus
- Impacts to traffic and access to mass transit are a concern due to the proposed changes in office and parking locations
- Infrastructure is needed for the safe movement of pedestrians across Martin Luther King Jr. Avenue SE between the two campuses
- Efficient internal circulation of traffic is needed to minimize vehicle queues on public roads outside the West Campus
- The Master Plan amendment should be consistent with the most recent *Comprehensive Plan for the National Capital*

A Notice of Availability (NOA) for the Draft Supplemental EIS was published in the Federal Register on May 8, 2020. A letter announcing the availability of the Draft Supplemental EIS was sent to 308 interested parties, including Federal and local agencies having jurisdiction by law or subject matter expertise, and members of the public, organizations, stakeholder groups, and agencies that had expressed interest in the project. A 55-day comment period for the Draft Supplemental EIS was initially provided from May 8, 2020, to July 2, 2020. Notices of the Draft Supplemental EIS availability and comment period were published on May 8, 2020, in *The Washington Post*, May 9, 2020, in *The Afro-American*, and in the May 2020 edition of *East of the River Magazine*. Availability of the Draft Supplemental EIS was also announced on the project website at www.stelizabethsdevelopment.com/nepa.html where the Draft Supplemental EIS was available

electronically to view and/or download. The public and agencies were encouraged to submit written comments on the Draft Supplemental EIS by mail or email.

Due to the District of Columbia requirements for social distancing and restrictions on public gatherings related to COVID-19 (DC, 2020), GSA made alternate arrangements in lieu of a traditional public hearing on the Draft Supplemental EIS. On June 30, 2020, GSA notified the public and agencies of the availability of a pre-recorded presentation online at www.gsa.gov/ncrnepea, or by phone at (410) 777-9538, from July 1, 2020, through July 16, 2020. The phone line established for the project presentation included an option to record a message with comments on the Draft Supplemental EIS. An amended notice was also published in the Federal Register on July 2, 2020, extending the comment period to July 16, 2020, and notices were published on June 30, 2020, in *The Washington Post*, and on July 3, 2020, in *The Afro-American* and in the *East of the River Magazine*. Letters announcing the public hearing information and the comment extension were mailed to everyone on the project mailing list.

In total, five comment letters were received during the Draft Supplemental EIS public review period. All comments on the Draft Supplemental EIS were considered during the preparation of the Final Supplemental EIS. Appendix H of this Final Supplemental EIS includes the NOA and other public outreach materials for the Draft Supplemental EIS, and all substantive comments on the Draft Supplemental EIS that were received during the 70-day public review period, as well as responses to those comments.

1.6.2 ***National Historic Preservation Act***

The NHPA of 1966, among other functions, governs Federal agencies in their management of historic properties. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on historic properties (54 U.S.C. 306108). Under this provision, GSA must evaluate impacts on any district, site, building, structure, or object listed in, or eligible for listing in, the NRHP. If the historic property subject to an undertaking is an NHL, Section 110(f) of the NHPA requires the

The **NRHP** is the nation's official list of historic properties worthy of preservation. Properties listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

NHLs are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States.

relevant agency “to the maximum extent possible, to undertake such planning and actions as may be necessary to minimize harm to such landmark” (54 U.S.C. 306107). “Historic properties,” as defined by the implementing regulations of the NHPA (36 CFR 800), are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. Historic

properties are characterized as archaeological resources, historic structures, and cultural landscapes. This includes artifacts, records, and the remains that are related to and located within such properties; and traditional and culturally significant Native American sites and historic landscapes.

The NHPA also requires GSA to consult with the State Historic Preservation Office (SHPO). In the case of St. Elizabeths, the DC Historic Preservation Office (DCSHPO) is the SHPO that must be consulted. GSA must also coordinate with other agencies responsible for historic preservation, local citizens, and groups with an interest in historic preservation (Consulting Parties).

Because St. Elizabeths is an NHL, GSA must undertake planning and take actions necessary to minimize harm to the resource from an undertaking and must afford the Advisory Council on Historic Preservation (ACHP) and the National Park Service (NPS) an opportunity to comment on the undertaking. The ACHP is an independent Federal agency that oversees the Section 106 process, and also consults with and comments to agency officials on undertakings and programs that affect historic properties (36 CFR 800.2(b)).

Pursuant to Section 106 of the NHPA, a Programmatic Agreement (PA) for the DHS Headquarters Consolidation was executed in December 2008 between GSA, DHS, ACHP, DCSHPO, NCPC, and the Federal Highway Administration (FHWA) (GSA, 2008c). The PA identifies steps to avoid, minimize, or mitigate adverse effects on historic properties from the Master Plan development, design and landscape guidelines, and mitigation requirements; and outlines the process by which projects on the West Campus are to be reviewed to ensure ongoing compliance with Section 106. The process includes continued consultation with the signatories and other Consulting Parties to explore alternatives to avoid and minimize harm to historic properties and to develop and consult on the terms of a Memorandum of Agreement (MOA) to mitigate any adverse effects. To date, GSA has executed six MOAs for development projects on the West Campus. The Final MOA for Master Plan Amendment 2 is located in Appendix F.

Historic properties outside the West Campus could also be affected by the proposed action. Section 4.3, Cultural Resources, describes the impacts DHS Consolidation would have on St. Elizabeths and the other historic properties.

Consulting Party Coordination

Throughout the project planning for the West Campus redevelopment, GSA has sought input from these and other Consulting Parties on the effects on the historic properties and ways to avoid and minimize adverse effects. GSA has been meeting with the Consulting Parties about the West Campus redevelopment since September 2005. In addition, GSA has sought consultation with the Delaware Nation, a federally recognized tribe.

Table 1-1 provides a summary of Consulting Party meetings held to date for Master Plan Amendment 2. Minutes from these meetings are included in Appendix G.

Consulting Agencies and Parties Invited to Participate in NHPA Consultation

- Advisory Council on Historic Preservation
- Advisory Neighborhood Commission 8C
- Committee of 100 on the Federal City
- Cultural Landscape Foundation
- DC Preservation League
- DC Office of Planning
- DC Historic Preservation Office
- Federal Highway Administration
- Joint Base Anacostia-Bolling (JBAB)
- National Capital Planning Commission
- National Association of Olmsted Parks
- National Park Service
- National Trust for Historic Preservation
- St. Elizabeths Hospital
- U.S. Commission of Fine Arts
- Department of Homeland Security

Table 1-1 Consulting Party Meetings

Meeting Date	Meeting Agenda
August 28, 2018	Master Plan Amendment 2—Scope of Study Master Plan Refresher—Original Master Plan and interim studies Master Plan Amendment 2—2018 Reset—Reason for current studies and update Preliminary Design Studies: Plateau—design drivers, site constraints, preliminary design options Preliminary Design Concepts: Sweetgum Lane Alternative locations for new construction—the Point, Admin Row, Eagle Zone, East Campus, and the ravine
September 20, 2018	Review of other development sites—Warehouse site, Allison/Home & Relief, above Parking Garage 1, Eagle Zone Preliminary Design Studies: Plateau Preliminary Design Studies: Sweetgum Lane Master Plan Process
October 12, 2018	Master Plan Amendment 2 Schedule Development Test Fits: Warehouse, Gate 1, Eagle Zone Design Studies: Plateau—overview of concepts Design Studies: Sweetgum Lane—overview of concepts

Meeting Date	Meeting Agenda
November 5, 2018	Alternatives Analysis: Warehouse Location Alternatives Analysis: Eagle Zone Design Studies: Plateau—building and landscape studies Design Studies: Sweetgum Lane—review of concepts
December 3, 2018	Master Plan Amendment 2 Schedule Design Studies: Plateau—consensus on building concept; review of landscape options Design Studies: Sweetgum Lane—review of concepts Next Steps—review
September 10, 2019	Review of Master Plan Amendment 2 Design Studies Presentation of Assessment of Effects on buildings, landscape, views and vistas, and archaeology
October 8, 2019	Responses to Consulting Parties on comments made at the September 10, 2019 meeting Proposed massing on the Sweetgum Lane site Proposed mitigation for Master Plan Amendment 2
November 19, 2019	Responses to comments received on the Assessment of Effects presented at the October 8, 2019 meeting Proposed adjustment to new construction Discussion on retention of Buildings 15, 66, and 69 Refinements to mitigation and minimization

1.6.3 NCPC Review

Under 40 U.S.C. 8722, NCPC has approval authority over site and building plans for Federal buildings in the District of Columbia and uses NCPC-approved master plans and policies found in the *Comprehensive Plan for the National Capital* as the basis for subsequent reviews and approvals including approvals of master plans for multi-building Federal sites (NCPC, 2016). NCPC approved the Master Plan for the consolidation of DHS Headquarters on the West and East Campuses on January 8, 2009 (GSA, 2008b, NCPC, 2009), and approved the Master Plan Amendment 1 on June 7, 2012 (GSA, 2012c; NCPC, 2012). The Draft Master Plan Amendment 2 was approved by NCPC on July 9, 2020.

1.6.4 CFA Review

The U.S. Commission of Fine Arts (CFA) is an independent agency that advises the Federal and District of Columbia Governments on matters of design and aesthetics that affect the appearance of the nation’s capital. Under 45 CFR 2101.1(a), for public buildings to be erected in the District of Columbia by the Federal Government, CFA comments and advises on the plans and merits of the

designs before final approval or action. CFA also reviews alterations to existing buildings. CFA approved the Master Plan on November 28, 2008, and Master Plan Amendment 1 on May 17, 2012.

2. Alternatives

The proposed action assessed in this Final Supplemental EIS is to amend the Master Plan to accommodate a total of 4.1 million gsf of secure office and shared-use space and 1.6 million gsf of associated parking on the West Campus. To accomplish this goal, GSA has developed alternatives to construct 1.2 million gsf of secure office space on the plateau site and 175,000 gsf of secure office space on the Sweetgum Lane site.

This chapter discusses the alternatives development process and site elements taken into consideration when developing alternatives and describes the No Action Alternative, alternatives considered in detail, and alternatives eliminated from further study. This chapter also identifies GSA's preferred alternative for Master Plan Amendment 2.

2.1 Alternatives Development Process

To create alternatives for Master Plan Amendment 2, GSA assembled a project team of urban designers and planners, architects, landscape architects, archaeologists, architectural historians, environmental scientists, engineers, transportation planners, and community and public outreach specialists. The project team identified and studied existing resources and development considerations before developing alternatives that meet the DHS mission requirements. The project team's activities included the following:

- Reviewing the 2008 ROD and the 2012 ROD (GSA, 2008b; GSA, 2012c)
- Reviewing the NHPA PA for the DHS Headquarters consolidation, executed December 8, 2008 (GSA, 2008c)
- Reviewing the St. Elizabeths Historic Resources Management Plan (Devroux and Purnell Architects, 1993)
- Mapping contributing resources on the plateau and Sweetgum Lane sites to avoid adverse effects on those resources whenever possible
- Assessing cultural landscapes on the plateau and Sweetgum Lane sites
- Assessing the potential for archaeological resources on the plateau and Sweetgum Lane sites
- Identifying historic and current significant views to and from the plateau and Sweetgum Lane sites
- Identifying natural resources such as forested areas, streams, and protected species
- Identifying site construction constraints such as steep slopes and unstable soils

- Assessing the condition and availability of utilities onsite and offsite
- Identifying locations on the plateau and Sweetgum Lane sites for new construction that would limit effects on landscape, buildings, archaeological sites, and views

Throughout the development of alternatives, GSA asked for input from the public and other government agencies through the scoping process, stakeholder meetings, public meetings, and Consulting Parties meetings under the Section 106 process.

As part of the alternatives development process, GSA performed initial studies and developed a range of test fits for the plateau and Sweetgum Lane sites. GSA, DHS, and the Consulting Parties reviewed the test fits. GSA incorporated comments from these reviews and modified and refined the concepts accordingly. Using this iterative process, GSA selected two of these refined initial studies for further development. These alternatives meet GSA's purpose and need for the proposed action and are carried forth for further analysis in this Final Supplemental EIS.

2.2 Site Considerations

As with the 2008 and 2012 EISs, GSA considered various factors and resources in the development of alternatives. A summary of the key issues that GSA considered in the development of the alternatives follows below.

2.2.1 National Historic Landmark Status

The St. Elizabeths NHL designation covers 82 contributing resources on the East and West Campuses including buildings, landscapes, vistas of the river and city, and the West Campus Cemetery. Since the redevelopment of the West Campus would affect an NHL, Section 110(f) of the NHPA applies to the project. Section 110 requires the head of the responsible Federal agency to “undertake such planning and actions as may be necessary to minimize harm” to an NHL to the “maximum extent possible” (54 U.S.C. 306107). The goal of preservation under Section 110 is to conduct responsible stewardship practices that protect the contributing resources of the NHL (54 U.S.C. 306101; 54 U.S.C. 306102).

GSA determined, based on the building and landscape assessments undertaken to date, that certain key character-defining features should be considered in determining opportunities for preservation under all the alternatives. These features include the following:

- Historic internal roadway network
- Entry road sequence from Gate 1 to the West Campus
- Associated historic landscape features and views

Existing historic structures in the vicinity of the plateau site and the Sweetgum Lane site were considered as alternatives were developed (Table 2-1, Figure 2-1, Photos 2-1 to 2-9).

Table 2-1 Historic Buildings near the Plateau Site

Building Number	Historic Use	Square footage (gsf)
15	Staff Residence	2,749
52	Ice House	5,284
56/57	Powerhouse	18,272
60	Patient Ward	16,050
64	Patient Ward	11,597
66	Patient Ward	13,108
67	Staff Residence	2,749
68	Patient Ward	38,370
69	Home for Female Nurses	27,588

Source: WJE, 2010



Photo 2-1 Building 15



Photo 2-3 Buildings 56 and 57

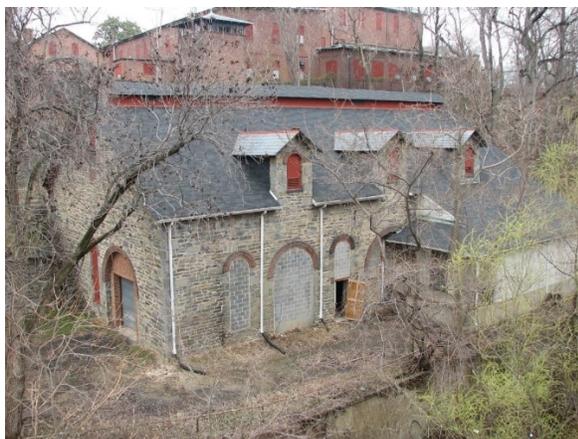


Photo 2-2 Building 52



Photo 2-4 Building 60



Photo 2-5 Building 64



Photo 2-8 Building 68



Photo 2-6 Building 66



Photo 2-9 Building 69



Photo 2-7 Building 67



Source: GSA, 2008a

Figure 2-1 Historic Buildings near the Plateau Site and Sweetgum Lane Site

2.2.2 Views

GSA assessed significant historic and non-historic views and vistas to and from the West Campus to help determine where new buildings should be placed and to determine building heights and densities. Historic views to and from the western portion of the West Campus include episodic views from the plateau toward the Potomac and Anacostia Rivers and downtown Washington, views across wooded areas, views from across the Anacostia River toward the topographic bowl that encircles the District of Columbia, views toward Virginia and downtown Washington from the West Campus Cemetery, and internal views of the cemetery.

Historic views of the plateau site include the topographic bowl views, views from the Potomac and Anacostia Rivers, and views from the East Campus over the West Campus wall.

Historic views of the Sweetgum Lane site include the views from the Center Building, the West Campus cemetery, and the Potomac and Anacostia Rivers.

2.2.3 Natural Resources

The plateau and Sweetgum Lane sites are generally flat with steep slopes to the north and west. There is a steep ravine on the north side of the plateau site. Deeper natural soil deposits in this area are from the Potomac Group which is made up of marine deposits from the Lower Cretaceous Period (146 to 100 million years ago). These soils typically have high plasticity characteristics and significant potential to shrink and swell as moisture content of the soil changes. As a result, the soils of the Potomac Group could contain pre-existing failure planes (unstable areas) (Haley & Aldrich, 2016). Historic accounts of water infiltration and soil instability in the ravine are detailed in the Cultural Landscapes Report and the Historic Structure Report completed in 2009 and 2010 (Heritage Landscapes LLC, et. al., 2009; WJE, 2010).

The northern and western sides of the Sweetgum Lane site are flanked by forested areas, while there are forested areas to the south and west of the plateau site. A bald eagle nest is south of the West Campus on NPS land. The nest has been present since GSA took control of the West Campus in 2005. As a result of coordination with the U.S. Fish and Wildlife Service (USFWS) during the preparation of the Master Plan, a 660-foot-radius Eagle Management Zone was established. GSA agreed that only a security fence would be constructed within this Zone (GSA, 2008a).

GSA accounted for the topographic and natural features when developing alternatives by maintaining natural vegetation to the extent possible, minimizing construction on undisturbed slopes, and stepping down buildings within ravines to minimize building heights and to help stabilize eroding soils.

2.2.4 Contamination

Previous studies identified fly ash along the western edge of the West Campus property; the southern portion of the Munro site; the ravine; and the plateau, specifically in the location of Buildings 66, 67, 68, and 69. The project team considered the known locations of fly ash when developing alternatives for new construction, considering foundation approaches and incorporating landscape.

2.3 No Action Alternative

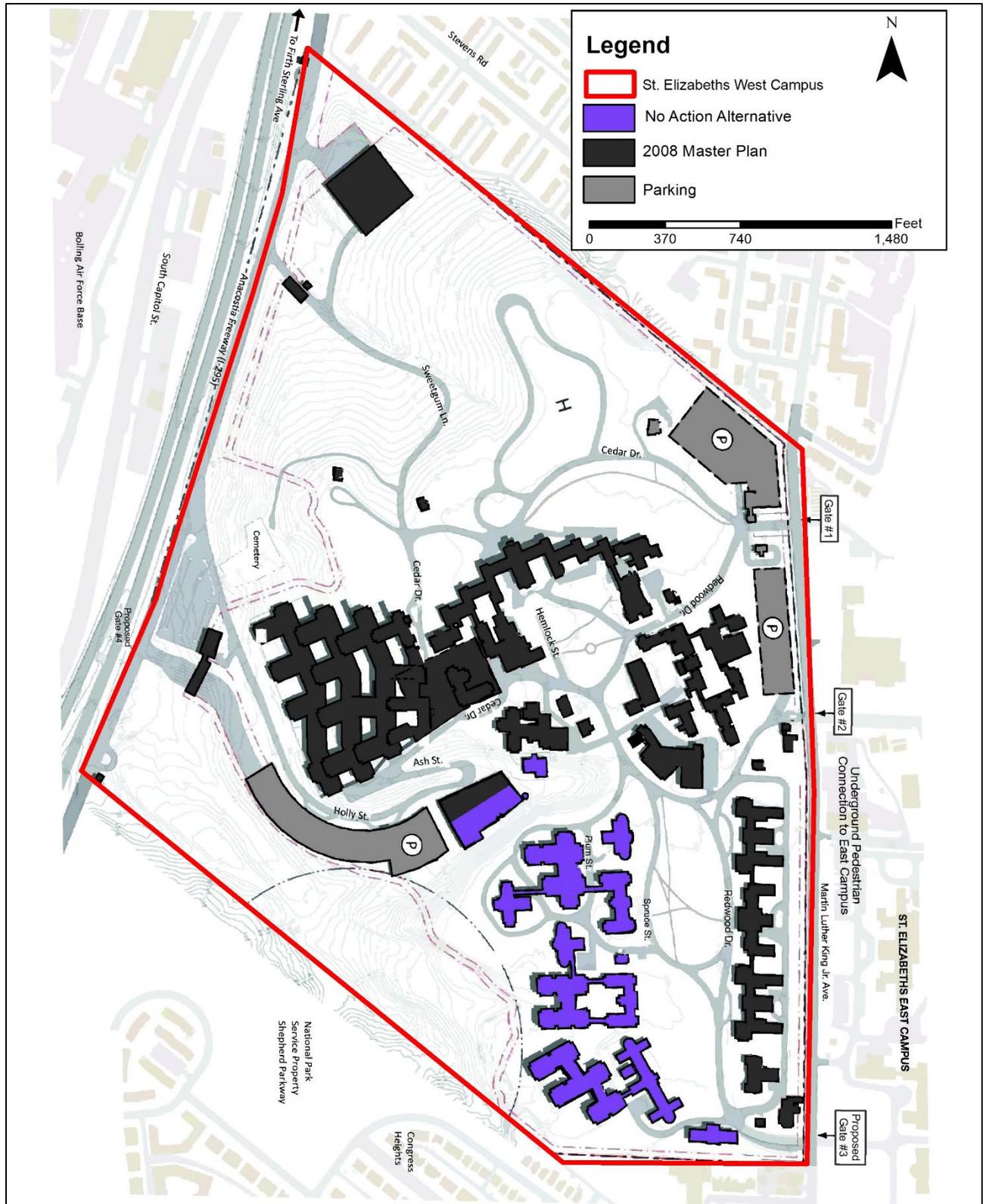
Under the No Action Alternative, GSA would develop the West Campus as described in the Master Plan as approved by NCPC on January 8, 2009. The development would provide 1,141,133 gsf of office and related space on the plateau site with no development on the Sweetgum Lane site and result in a total of 3.8 million gsf of office and related space on the West Campus (Table 2-2 and Figure 2-2). This development would disturb approximately 6 acres on the plateau site. Parking would be provided at a ratio of one parking space for every four employees (1:4). On the West Campus, 1.2 million gsf of parking would be constructed above and below grade. No buildings would be demolished within the plateau or Sweetgum Lane sites under the No Action Alternative.

Master Plan Amendment 1 included the development of office space and parking on the North Parcel of the East Campus. The North Parcel on the East Campus is owned by the District of Columbia and is no longer available for use by the Federal Government. DC currently has plans to develop the North Parcel with a 150-bed hospital with 230,000 gsf ambulatory services and a 380-bed men’s shelter. Therefore, the construction of DHS facilities on the East Campus is not feasible and is not included under the No Action Alternative.

Table 2-2 No Action Alternative

Activity	Above Grade gsf	Below Grade gsf	Total gsf
Plateau Site Construction	1,064,133	77,000	1,141,133
Sweetgum Lane Site Construction	0	0	0
Structures to be Demolished	0	0	0
West Campus Employee Parking Structures Construction	478,900	737,600	1,216,500
West Campus Employee Parking Spaces (1:4 Parking Ratio)	2,090 spaces	1,369 spaces	3,459 spaces

Source: GSA, 2012b



Source: GSA, 2008a

Figure 2-2 No Action Alternative

2.4 Action Alternatives Considered in this Supplemental EIS

Conceptual development plans evaluated for the plateau site considered the following design drivers, the nature of which may vary among the concepts.

Campus Context:

- Scale—building heights beyond south lawn, number of buildings, stepping down to lawn
- Views—consideration of important internal and external views
- Landscape—new buildings on site, outdoor placemaking, stormwater management
- Habitat—topographic bowl and habitat disturbance

Quality and Operations:

- Workplace efficiency—optimize daylighting, incorporate pedestrian connections between buildings for maximum flexibility
- Identity—buildings programmed for components, component identity, security
- Performance—utilization, solar orientation, daylighting, glare, stormwater management, heating and cooling

Feasibility:

- Soils and Stabilization—promote slope stabilization and soil remediation efforts
- Cost—Cost per square foot, building skin to floorplate ratio, foundation requirements
- Flexibility—program by component, structural grid
- Efficiency—achieve GSA’s PBS Facilities Standards (P100) target efficiency, circulation, shared spaces, phasing

Development on the plateau site would be planned along the west edge of the south lawn.

Conceptual layouts of Alternatives A and B are shown in Figure 2-3 and Figure 2-5, respectively. These layouts are not intended to show final versions of schematic design concepts, nor other architectural features that would be developed as part of the design process.

New construction would be designed in accordance with GSA’s P100 for design at historic facilities (GSA, 2018).

2.4.1 Alternative A

Under Alternative A, 1.2 million gsf of office space would be organized into three separate office structures organized around two open courtyards (proposed Buildings A1, A2, and A3) (Figure 2-3, Figure 2-4, and Table 2-3), resulting in a campus setting that correlates to the organization of the historic buildings on the West Campus. Building heights would likely be designed to reach between three and eight stories. The largest part of the structures would generally have an east-west orientation, which would be ideal for optimizing the use of daylight and energy efficiency.

The building organization also relates well to the direction of stormwater flow from east to west.

The central open courtyards would be tiered from east to west, in conjunction with site topography. Buildings could be linked below grade at these elevation drops to facilitate internal circulation, fit naturally on the site, and minimize the need to disturb existing topography and vegetation. Building A1 would be stepped down into the ravine near the Building 56/57 to stabilize the slope in that area. Building 56/57 would be integrated into the design of Building A1 to provide a connection between the historic and new construction. Buildings 52 and 64 would be retained, rehabilitated, and adaptively reused. Buildings 60, 66, 67, 68, and 69, which total 65,295 gsf, would be demolished under Alternative A. Approximately 7 acres of the plateau site would be disturbed as a result of demolition and construction activities under Alternative A.

Under Alternative A, 175,000 gsf of office space (proposed Building C1) would be constructed on the Sweetgum Lane site, organized into primarily below-grade construction, with one two-story building constructed to mirror the northwest corner of the Munro Building. The building would include up to three below-grade levels, which would take advantage of the site slope from east to west, allowing the western edge of the building to receive daylight. A central courtyard would provide internal daylighting; the building could be linked below grade to the DHS Operations Centers. Building 15, which totals 2,749 gsf, would be demolished under Alternative A.

Approximately 1.5 acres of the Sweetgum Lane site would be disturbed as a result of demolition and construction activities under Alternative A.

Under Alternative A, an additional 535 employee parking spaces would be provided on the West Campus resulting in a 1:4 parking ratio. The new spaces would be added to the previously proposed underground parking garages at Gate 1 and at Gate 2 on the east side of the campus.

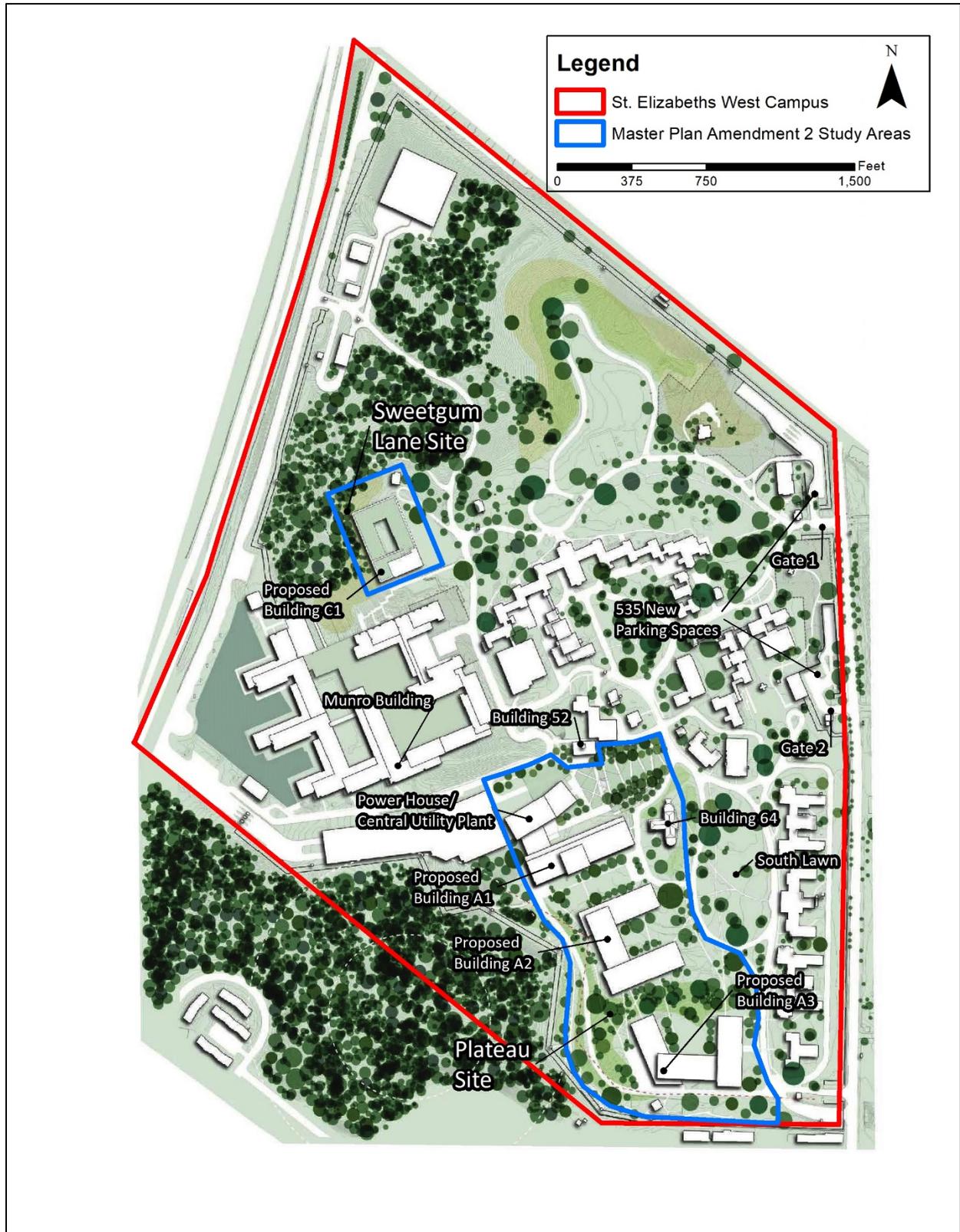
Detailed building and site design of the plateau and Sweetgum Lane sites would define the following improvements:

- Sidewalk locations and walkways between buildings
- Specific improvements to the ravine including enhanced pedestrian connections and landscaping

- Engineering for stabilization of steep slopes including building foundations
- Realignment of site drainages and landscaping in response to building design
- Shuttle bus drop-off locations
- Shipping/receiving areas for buildings
- Electric power, communications, and utility corridors
- Stormwater management controls
- Remediation of contaminated soils

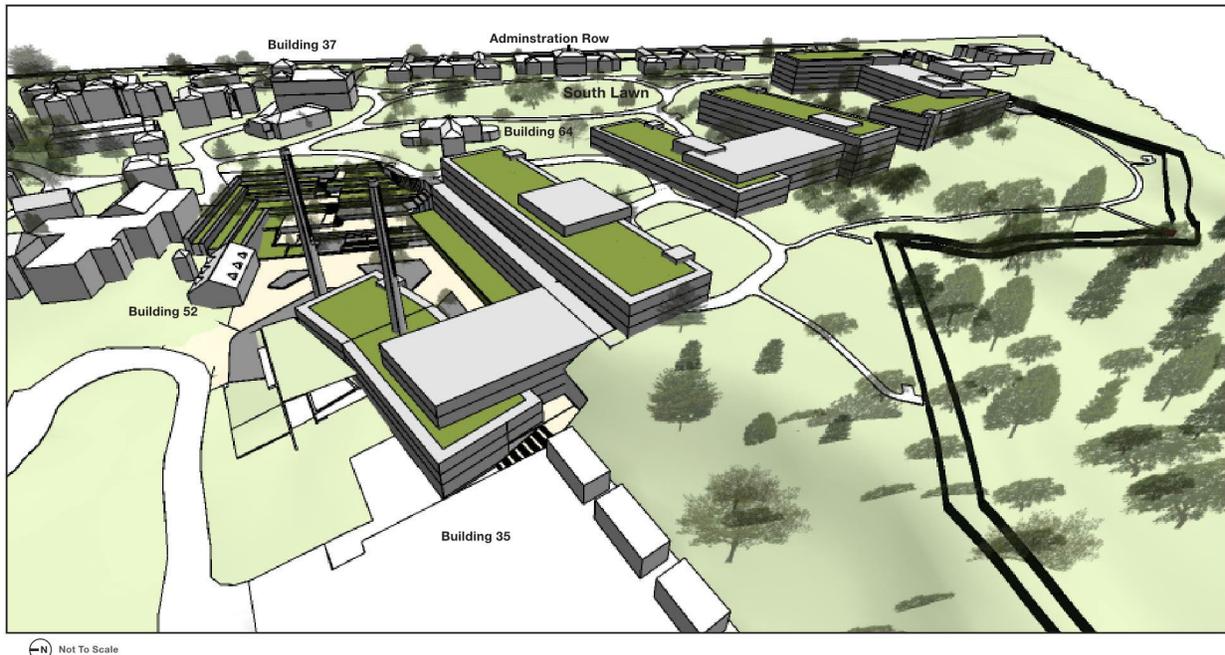
Table 2-3 Alternative A Proposed Development

Activity	Above Grade gsf	Below Grade gsf	Total gsf
Plateau Site—Building A1 Construction	350,000	0	350,000
Plateau Site—Building A2 Construction	425,000	0	425,000
Plateau Site—Building A3 Construction	425,000	0	425,000
Sweetgum Lane Site—Building C1 Construction	25,000	150,000	175,000
Structures to be Demolished	68,044	0	68,044
West Campus Employee Parking Structures Construction	478,900	1,112,900	1,591,800
West Campus Employee Parking Spaces (1:4 Parking Ratio)	2,090 spaces	1,535 spaces	3,625 spaces



Source: ZGF Olin, 2019

Figure 2-3 Alternative A



Source: ZGF Olin, 2019

Figure 2-4 Alternative A—Birds-Eye View

2.4.2 Alternative B (Preferred Alternative)

Under Alternative B, 1.2 million gsf of office space would be in two separate office structures organized around two enclosed courtyards (proposed Buildings B1 and B2) (ZGF Olin, 2019) (Figure 2-5, Figure 2-6, and Table 2-4). Building heights would likely be designed to reach between three and eight stories. The largest part of the structures would have an east-west orientation to optimize the use of daylight and energy efficiency. The building organization also relates well to the direction of stormwater flow from east to west.

The courtyards would be secured to provide open space for building occupants. Buildings could be linked below grade at these elevation drops to facilitate internal circulation. The buildings would fit naturally on the site minimizing the need to disturb existing topography and vegetation on the plateau site. Building B1 would be stepped down into the ravine near Building 56/57 to stabilize the slope in that area. Building 56/57 would be integrated into the design of Building B1 to provide a connection between the historic and new construction. Buildings 52 and 64 would be retained, rehabilitated, and adaptively reused. Buildings 60, 66, 67, 68, and 69, which total 65,295 gsf, would be demolished under Alternative B. Approximately 8 acres of the plateau site would be disturbed as a result of demolition and construction activities under Alternative B.

Under Alternative B, 175,000 gsf of office space would be constructed on the Sweetgum Lane site (proposed Building C1) in the same manner as Alternative A. Building 15, which totals 2,749 gsf,

would be demolished under Alternative B. Approximately 1.5 acres of the Sweetgum Lane site would be disturbed as a result of demolition and construction activities under Alternative B.

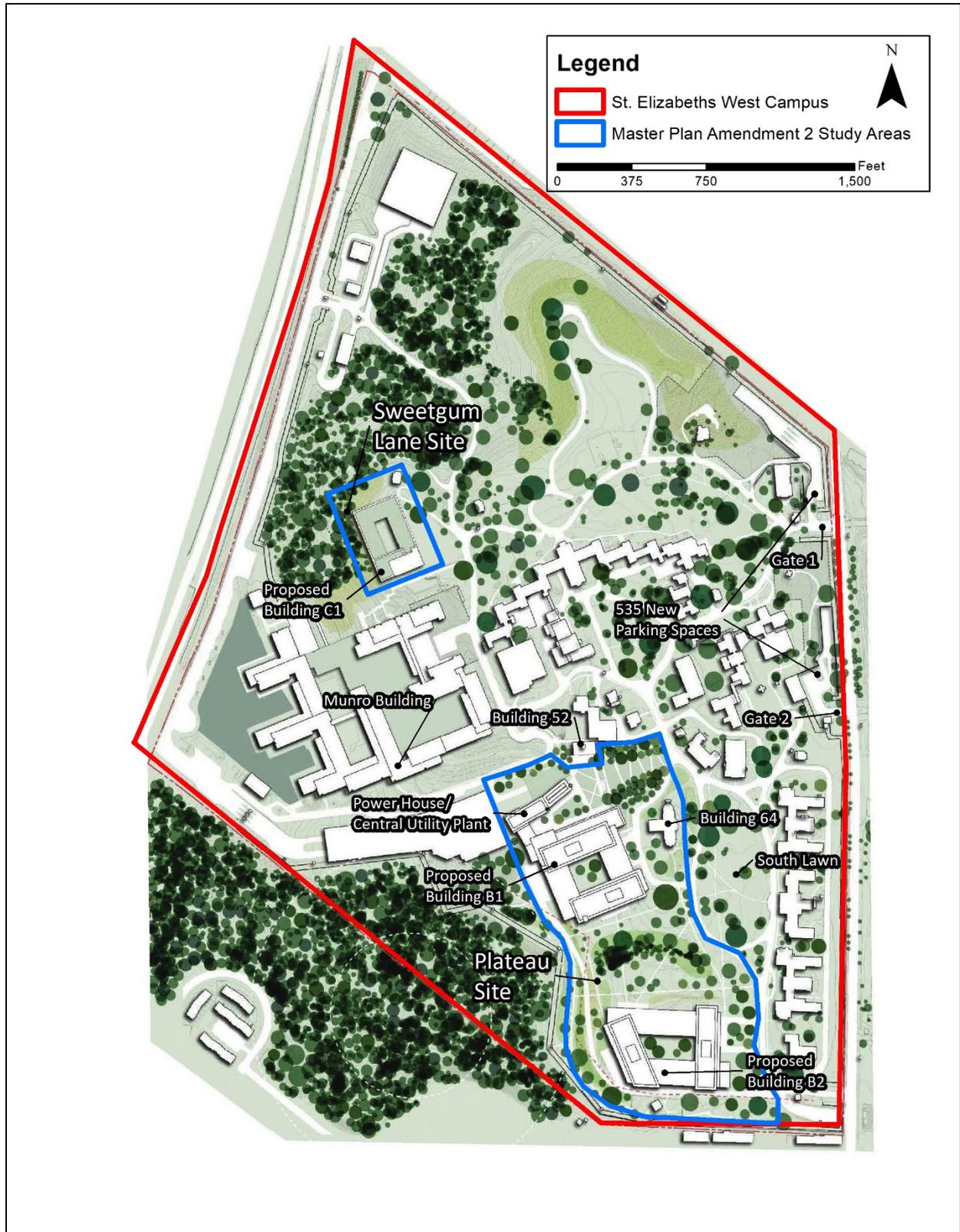
Under Alternative B, an additional 535 employee parking spaces would be provided on the West Campus resulting in a 1:4 parking ratio. The new spaces would be added to the previously proposed underground parking garages at Gate 1 and at Gate 2 on the east side of the campus.

Detailed building and site design of the plateau and Sweetgum Lane sites would define the following improvements:

- Sidewalk locations and walkways between buildings
- Specific improvements to the ravine including enhanced pedestrian connections and landscaping
- Engineering for stabilization of steep slopes including building foundations
- Realignment of site drainages and landscaping in response to building design
- Shuttle bus drop-off locations
- Shipping/receiving areas for buildings
- Electric power, communications, and utility corridors designed for buildings and site improvements
- Stormwater management controls
- Remediation of contaminated soils

Table 2-4 Alternative B Proposed Development

Activity	Above Grade gsf	Below Grade gsf	Total gsf
Plateau Site—Building B1 Construction	630,000	0	630,000
Plateau Site—Building B2 Construction	570,000	0	570,000
Sweetgum Lane Site—Building C1 Construction	25,000	150,000	175,000
Structures to be Demolished	68,044	0	68,044
West Campus Employee Parking Structures Construction	478,900	1,112,900	1,591,800
West Campus Employee Parking Spaces (1:4 Parking Ratio)	2,090 spaces	1,535 spaces	3,625 spaces



Source: ZGF Olin, 2019

Figure 2-5 Alternative B



Not To Scale

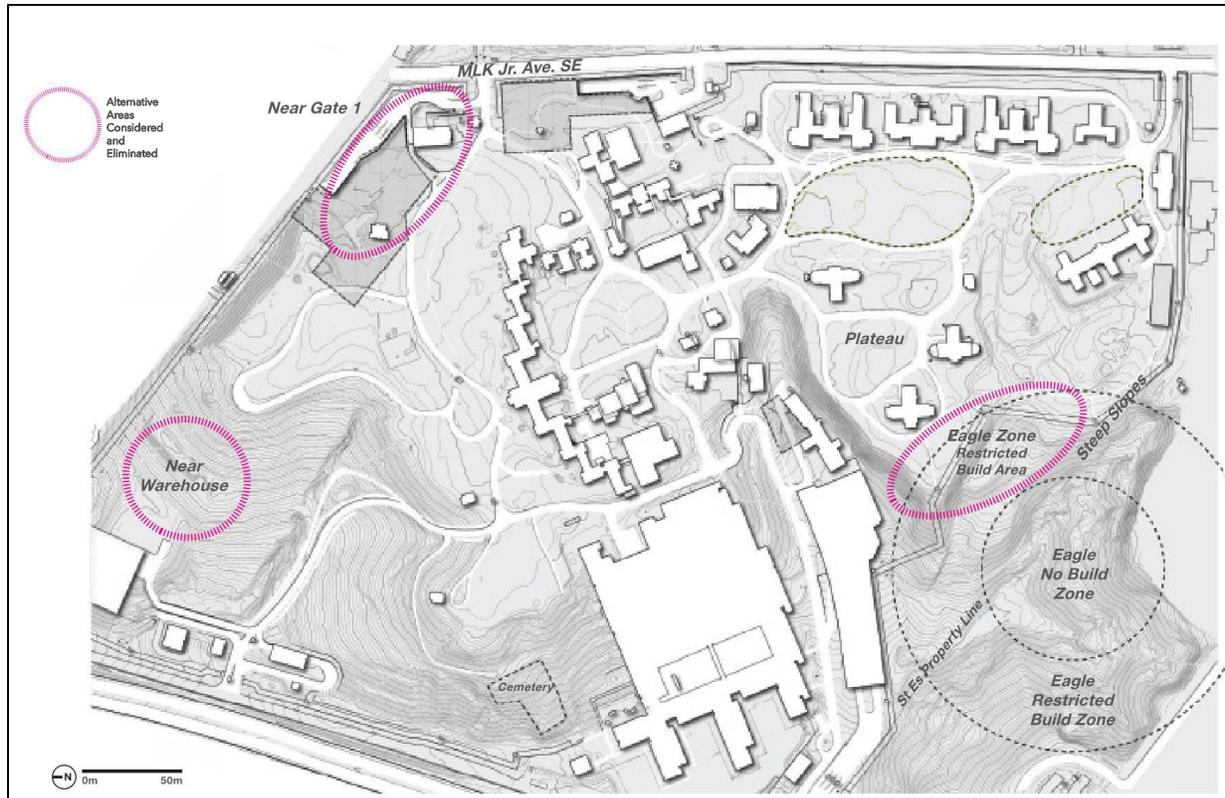
Source: ZGF Olin, 2019

Figure 2-6 **Alternative B—Birds-Eye View**

2.5 **Alternatives Considered and Eliminated from Detailed Study**

During the process of defining viable alternatives, GSA investigated several sites on the West Campus for new development and subsequently eliminated the following three: near Gate 1, near the Warehouse site, and near the southern portion of the campus within the Eagle Management Zone (Figure 2-7). GSA developed preliminary test fits for placing 350,000 gsf of above-ground development on each of the three sites. Figure 2-8 shows the test fit for the Gate 1 concept, Figure 2-9 shows the test fit for the Warehouse site concept, and Figure 2-10 shows the concept for the Eagle Zone concept.

GSA analyzed the visual impacts these development concepts could have on surrounding historic features and on historic and non-historic views. In addition, GSA examined environmental conditions to identify potential environmental impacts associated with placement of buildings in these locations.

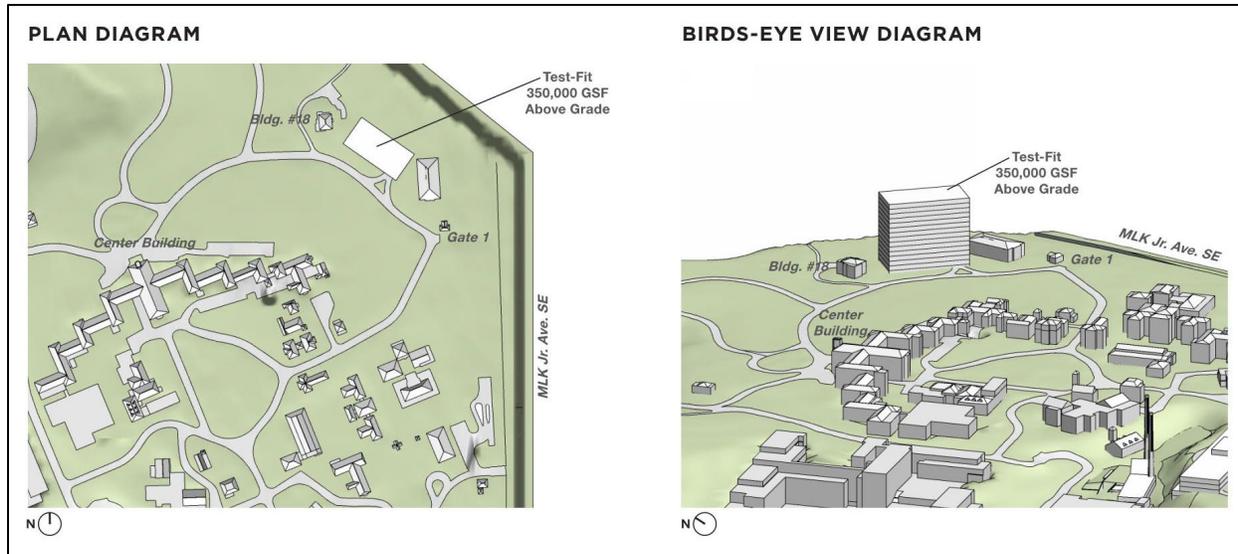


Source: ZGF Olin, 2019

Figure 2-7 Alternatives Considered and Eliminated from Detailed Study

2.5.1 Gate 1 Site

Figure 2-8 shows the test fit for the Gate 1 concept. GSA eliminated the Gate 1 site from consideration due to the impacts to views along Martin Luther King Jr. Avenue SE and impacts to views from the historic cottages on the east side of the West Campus.

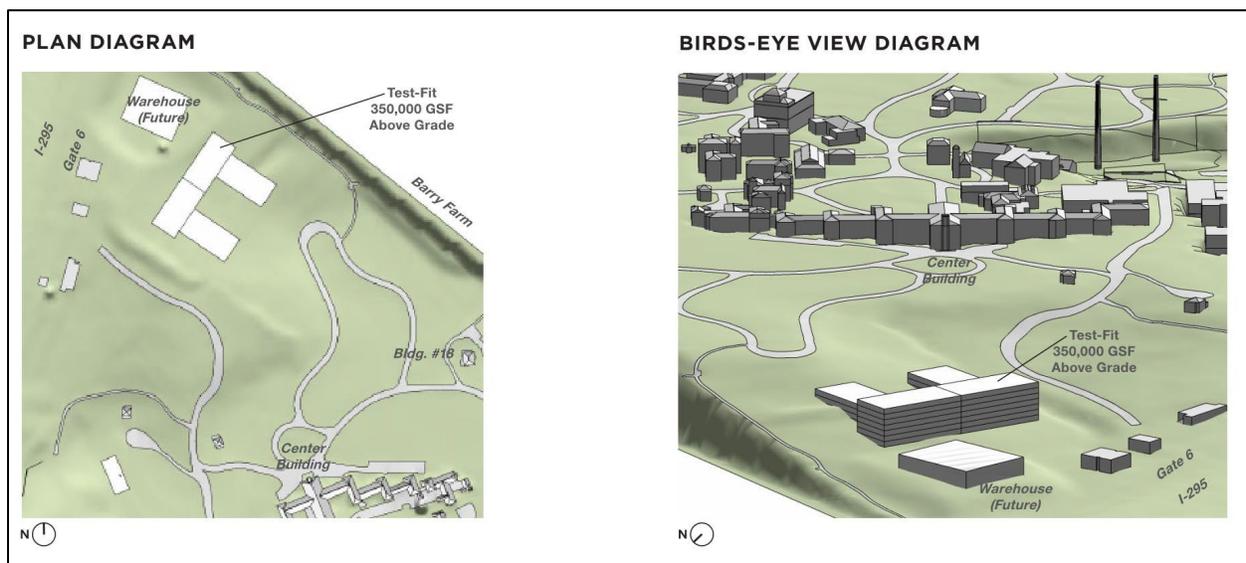


Source: ZGF Olin, 2019

Figure 2-8 Gate 1 Site Test Fit

2.5.2 Warehouse Site

Figure 2-9 shows the test fit for the Warehouse site concept. GSA eliminated the Warehouse site concept due to potential impacts on views to and from the Potomac and Anacostia Rivers and the Center Building; concerns that the distance from main central campus would not support departmental operations; and the need for additional cost-prohibitive infrastructure and site work not previously considered as part of the overall campus master plan development.

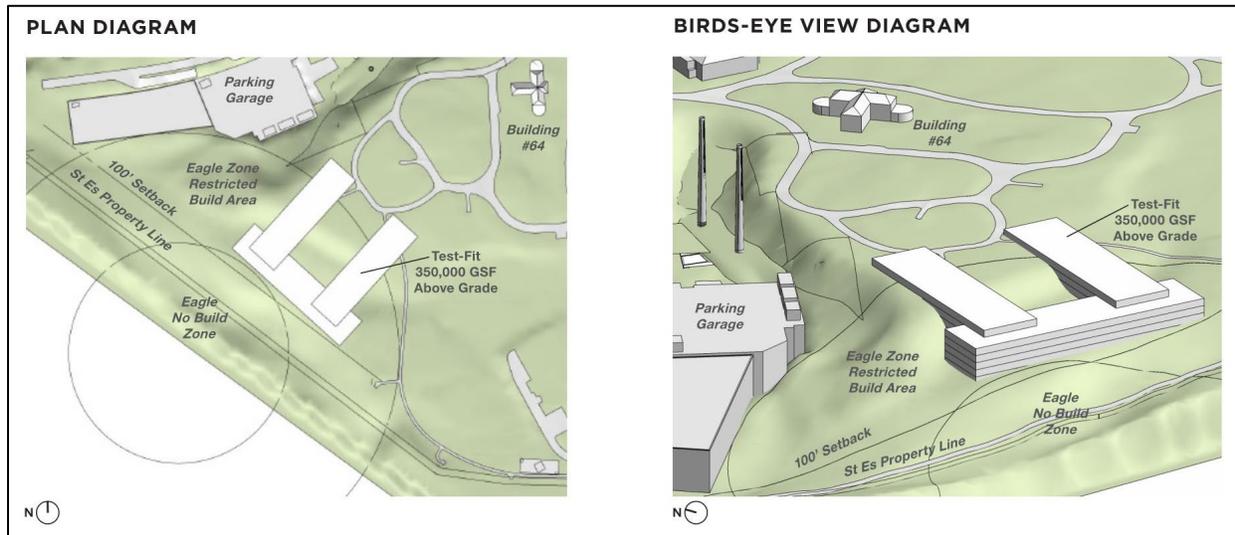


Source: ZGF Olin, 2019

Figure 2-9 Warehouse Site Test Fit

2.5.3 Eagle Zone Site

Figure 2-10 shows the test fit for the Eagle Zone concept. GSA eliminated the potential siting of new development within the Eagle Zone due to potential impacts to views of the topographic bowl; impacts to forested habitat; impacts to previously undisturbed slopes; stormwater run-off issues; relocation of the existing security fence and related site work; and increased distance from central campus which would impact departmental operations.



Source: ZGF Olin, 2019

Figure 2-10 Eagle Zone Site Test Fit

2.6 Identification of the Preferred Alternative

In accordance with 40 CFR 1502.14(e), which requires that a preferred alternative be identified in an EIS, the preferred alternative is Alternative B.

During the Master Plan Amendment 2 process, there have been several design drivers that influenced the development and evaluation of alternatives. The development and evaluation of alternatives was an iterative process done in collaboration with the Consulting Parties.

Campus Context:

Landscape: Although Alternative B would result in more ground disturbance than Alternative A, Alternative B's overall consolidated building footprint could have less of an impact than Alternative A.

Views: Alternative B's consolidated footprint would provide for more views than Alternative A.

Scale: Alternative B's building footprints would allow for the massing to step away from the South Lawn.

Quality and Operations:

Workplace Efficiency: Alternative B's two buildings represent the DHS's anticipated use of the buildings by two departments.

Identity: Alternative B's two buildings represent the DHS's anticipated use of the buildings by two departments.

Feasibility:

Soils & Stabilization/Cost: Both Alternatives A and B anticipate utilizing the foundation of the building along the ravine to also provide stabilization of the slope. This strategy is considered a more cost effective strategy, conceptually, than using a slope stabilization method in addition to a separate building foundation system.

Flexibility & Efficiency: Alternative B's two buildings represent the DHS's anticipated use of the buildings by two departments.

The new development on the two sites is projected to be occupied by 2035, and the total build-out of the DHS consolidation at St. Elizabeths is projected to occur by 2035. Due to the current economic and political climate, GSA has assumed a 15-year development horizon for the remaining DHS consolidation at St. Elizabeths. This longer period approach is more conservative because it allows for greater development flexibility. It does not mean, however, that the consolidation could not occur earlier than the aforementioned horizon.

3. Affected Environment

This chapter of the Final Supplemental EIS describes the existing environmental conditions that may be affected by Master Plan Amendment 2. The affected environment varies depending on the resource area under consideration (Table 3-1; Figure 3-1).

Table 3-1 Resource Areas and the Affected Environment

Affected Environment	Resource Area
The West Campus—specifically the plateau and Sweetgum Lane sites in the southwestern and western portion of the West Campus, respectively (Figure 3-1)	<ul style="list-style-type: none"> • Natural Resources • Cultural Resources • Social and Economic Resources • Air Quality • Noise • Transportation • Utilities • Environmental Contamination
National Historic Landmark (West and East)	<ul style="list-style-type: none"> • Cultural Resources
Ward 8 Congress Heights Barry Farm JBAB	<ul style="list-style-type: none"> • Cultural Resources • Social and Economic Resources • Air Quality • Noise • Transportation • Utilities
Washington, DC	<ul style="list-style-type: none"> • Cultural Resources • Social and Economic Resources • Air Quality • Transportation

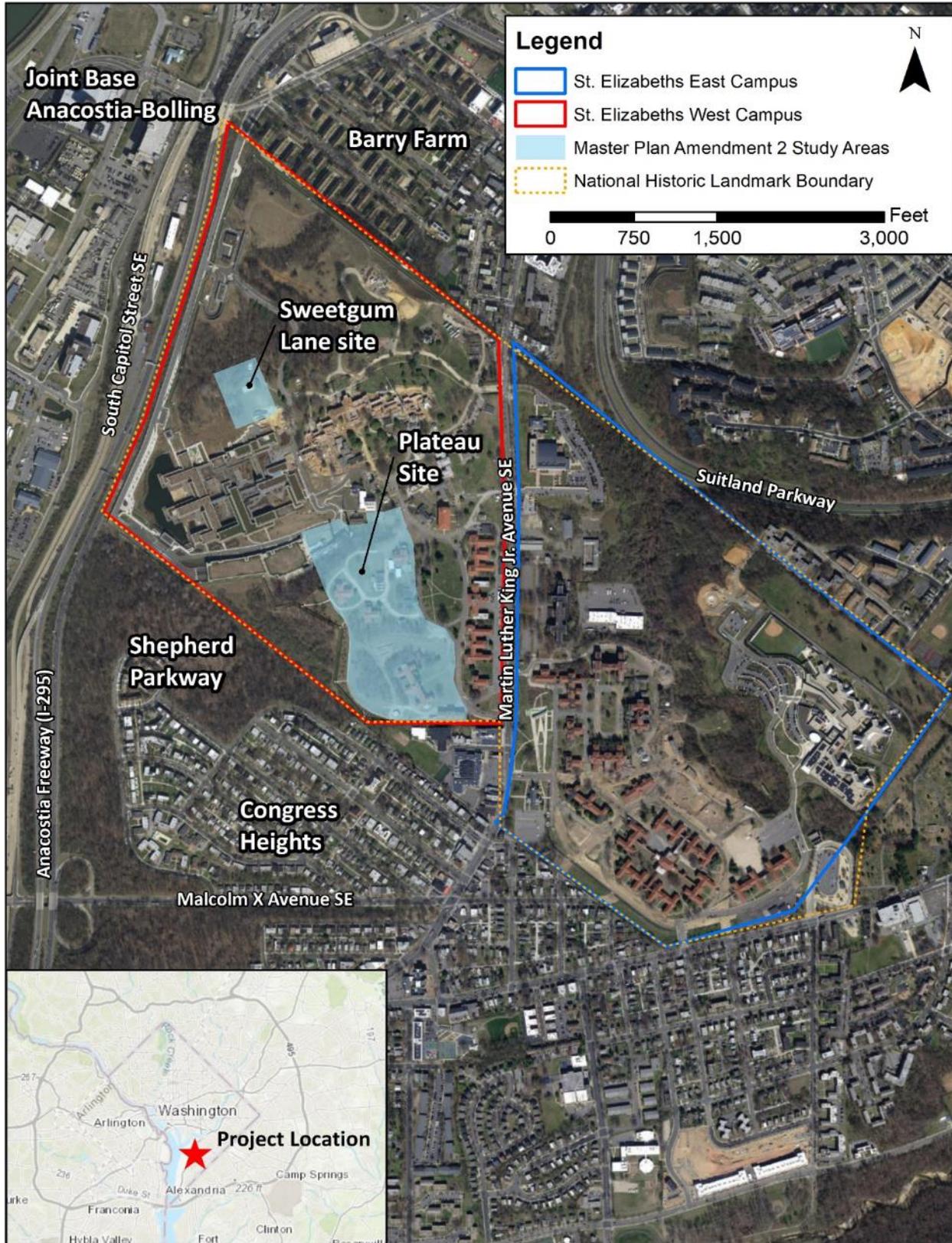


Figure 3-1 Project Area

3.1 ISSUES ELIMINATED FROM DETAILED STUDY

Several resource areas have been dismissed from further analysis because Master Plan Amendment 2 and alternatives would cause negligible (i.e., localized and immeasurable at the lowest level of detection) impacts or because the resource does not apply to the action area. Issues eliminated from detailed study and the rationale for dismissing them are discussed in the following section.

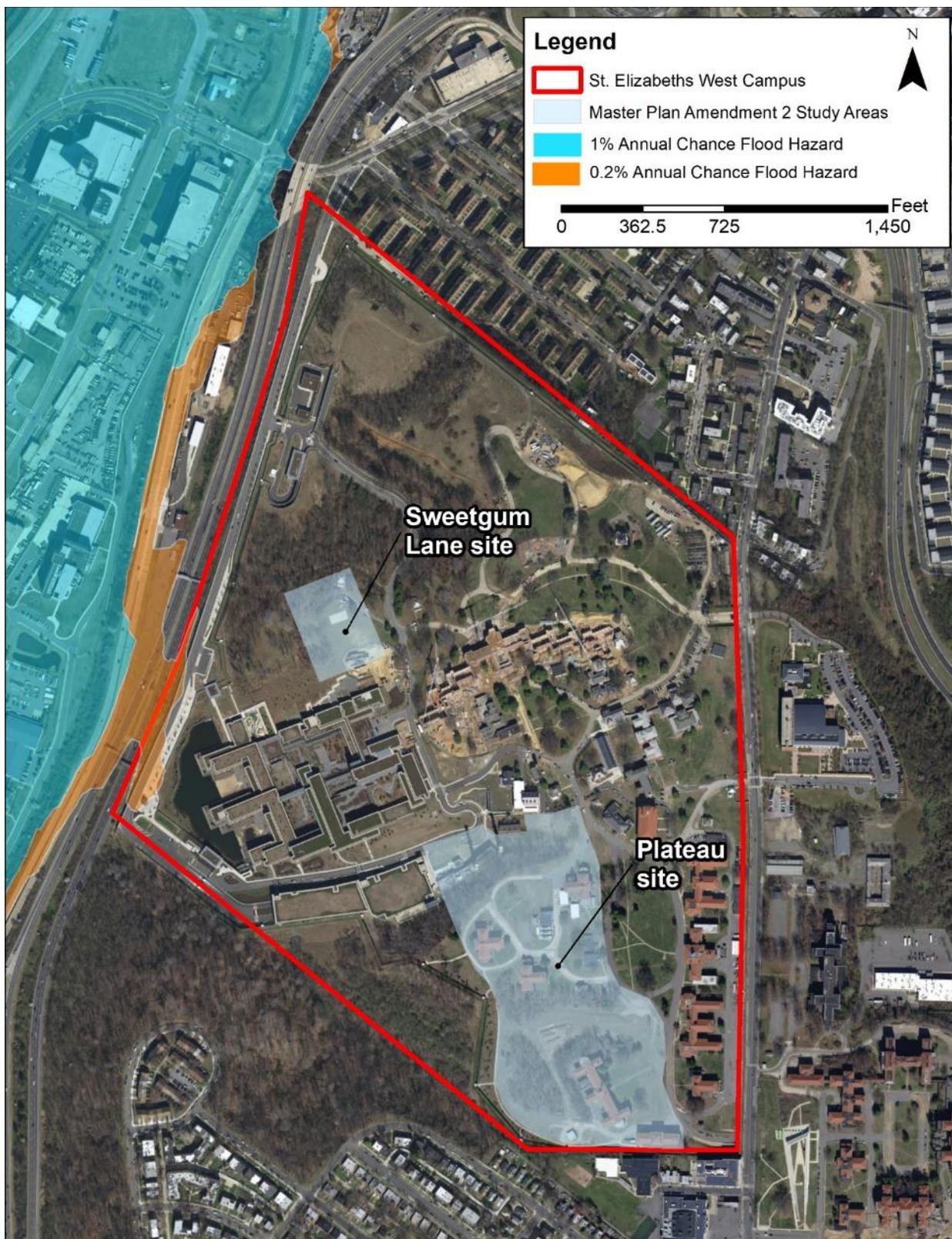
3.1.1 Coastal Zone Management

The Coastal Zone Management Act (CZMA) of 1972 provides for the management of the nation's coastal resources. The CZMA relies on the voluntary partnership between the Federal Government and coastal states and territories to administer the laws, regulations, and policies that aim to protect the nation's coastal zone. The District of Columbia has no designated coastal zone and no federally approved Coastal Management Program. The discussion on coastal zone management was eliminated from further study because Master Plan Amendment 2 would not impact the coastal zone.

3.1.2 Floodplain Management

EO 11988, Floodplain Management, requires Federal agencies to evaluate the potential effects of any actions that could occur within a floodplain and to ensure that development plans consider flood hazards and floodplain management requirements. GSA's Desk Guide for Floodplain Management provides an eight-step process to assess and address floodplain effects including determining if an action would occur in a floodplain, identifying and evaluating practicable alternatives to siting within the floodplain, identifying impacts of an action on floodplain management, and providing opportunity for public review of the project alternatives.

According to FEMA Flood Insurance Rate Map (FIRM) Panels 1100010057C and 1100010076C (effective September 27, 2010), the plateau and Sweetgum Lane sites are within Flood Zone X, which is defined as an area of minimal flood hazard. The plateau and Sweetgum Lane sites are outside the Special Flood Hazard Area (SFHA) and the 100-year and 500-year flood zones (Figure 3-2). Therefore, floodplain management has been dismissed from further analysis because there would be no impacts to floodplains under Master Plan Amendment 2 and alternatives.



Source: FEMA, 2019

Figure 3-2 FEMA Floodplain Map

3.1.3 Aquatic Biota

Aquatic biota are organisms that live in, or depend on, aquatic environments to survive. These organisms include algae, benthic macroinvertebrates, and fish, and serve as environmental indicators of water quality conditions in streams and other waterbodies. An aquatic and riparian survey conducted to support the 2008 EIS suggested that wetlands on the West Campus support aquatic biota, particularly macroinvertebrates, but riparian and aquatic habitat conditions ranged from poor to suboptimal (GSA, 2008a). The survey found inadequate habitat for fish due to limited water depth. These findings were supported by a limited habitat assessment performed for the West Campus as part of the St. Elizabeths East Campus Natural Resource Evaluation in June 2010 in support of the 2012 EIS, which suggested that the habitat potential for fish within the West Campus's streams is limited to nonexistent (Ottery Group, 2010). Because there would be no impacts to surface waters or wetlands that sustain aquatic biota, other than those previously identified in the 2008 and 2012 EISs, aquatic biota has been dismissed from further analysis in this Final Supplemental EIS.

3.1.4 Protected Species

USFWS was consulted to determine the presence of federally listed species and critical habitat within the West Campus. According to USFWS Information for Planning and Consultation (IPaC) web application, the northern long-eared bat (*Myotis septentrionalis*) is the only protected species that may be present in the West Campus. However, no known hibernacula are within a 0.25-mile radius, nor do any maternity roost trees exist within 150 feet of the plateau or Sweetgum Lane sites. There are no critical habitats within the plateau or Sweetgum Lane sites (USFWS, 2019a). Therefore, implementation of Master Plan Amendment 2 is not likely to adversely affect the northern long-eared bat.

There is a bald eagle (*Haliaeetus leucocephalus*) nest located on NPS land southwest of the plateau site (GSA, 2008a). The bald eagle was removed from the Endangered Species List in June 2007. However, the bald eagle is still protected under the *Bald and Golden Eagle Protection Act* and the *Migratory Bird Treaty Act* (MBTA). Both the Sweetgum Lane and plateau sites are located outside a 660-foot buffer of the bald eagle nest in compliance with the USFWS National Bald Eagle Management Guidelines. In correspondence from July 2019, the USFWS indicated that no additional consultation is required for Master Plan Amendment 2 (USFWS, 2019b). This issue has been dismissed from further analysis.

3.1.5 Archaeological Resources

Archaeological resources are defined as locations of human activity that are 50 years old or greater (Little et al., 2019). St. Elizabeths Hospital is a designated NHL with documented archaeological sites that can yield information important to understanding the history of treatment of the mentally ill in the United States. Section 106 of the NHPA and its implementing regulation, 36 CFR 800 (Protection of Historic Properties), direct Federal agencies to take into account the effects of proposed undertakings on historic properties, inclusive of archaeological sites. The same regulation directs the Federal agency to consult with the SHPO on the effects of the proposed undertaking and measures to avoid, minimize, or mitigate effects of the undertaking on historic properties determined eligible for listing in the NRHP.

GSA has conducted archaeological investigations at St. Elizabeths Hospital since 2003 to identify archaeological sites, evaluate those sites for listing in the NRHP, and avoid, minimize, or mitigate effects associated with the reuse of the property as the DHS Consolidated Headquarters Campus. A review of a series of technical archaeological reports prepared between 2005 and 2019 has determined that all areas considered by Master Plan Amendment 2 have been subjected to Phase IB archaeological site surveys, with surveys identifying archaeological sites at three locations: Powerhouse Ravine Site; 51SE046-H (the location of the no-longer-standing Oakes complex of buildings); and Toner Building. Phase II NRHP eligibility investigations have been completed at all three locations; two (51SE046-H and Toner Building) have been determined not eligible for listing in the NRHP while one (Powerhouse Ravine Site) was determined eligible. Mitigation of potential adverse effects associated with potential slope stabilization measures to the Powerhouse Ravine Site was completed in 2013. All adverse effects to NRHP-eligible archaeological resources associated with the plateau and Sweetgum Lane sites have been previously mitigated. Therefore, archaeology has been dismissed from the detailed analysis in this Final Supplemental EIS.

3.2 Natural Resources

The natural resource areas discussed in the following sections may be impacted by the implementation of Master Plan Amendment 2 and therefore warrant further analysis.

3.2.1 Geology, Topography, and Soils

Geology

The West Campus is in the Coastal Plain physiographic province, which is bordered by the Atlantic Ocean to the east and the Piedmont physiographic province to the west. The underlying sediments on the West Campus consist of the Patapsco Formation and Arundel Clay, deposited in the Lower Cretaceous Period, which occurred between approximately 145.5 and 65.5 million years ago. Soils on the West Campus consist of interbedded layers of clay, silt, sand, and gravel from the River Terrace Deposits and the Potomac Group. Both the plateau and Sweetgum Lane sites are located primarily over River Terrace Deposits, with portions of the plateau site located over the Potomac Group (Haley & Aldrich, 2016).

Topography

The topography of the West Campus ranges from 10 to 177 feet above mean sea level (msl) (Figure 3-3) (DC OCTO, 2018). The West Campus is characterized by a flat upland plateau at approximately 170 feet above msl, which overlooks I-295, JBAB, and the Anacostia River. The West Campus has steep slopes to the west, northwest, and southwest from the plateau site to the historic floodplain of the Anacostia River, which is now I-295. The plateau site is primarily located on the southeastern portion of the West Campus with the northwestern portion located over the ravine that slopes westward in the middle of the campus. The ravine begins at an elevation of approximately 170 feet above msl and slopes downward to 100 feet above msl. The Sweetgum Lane site is located at the edge of the plateau before sloping westward down to 120 feet above msl (DC OCTO, 2018; Haley & Aldrich, 2016).

Soils

The U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) has mapped 17 soil types on the West Campus with soil erosion hazards ranging from moderate to severe (Figure 3-4). Nine soils mapped on the West Campus have severe soil erosion hazard and account for approximately 30 acres on the West Campus. These soils are located north and east of the Center Building and along the east/southeast side of the ravine. No soils within the West Campus are considered hydric or suitable for prime farmland (USDA NRCS, 2019a; USDA NRCS, 2019b).

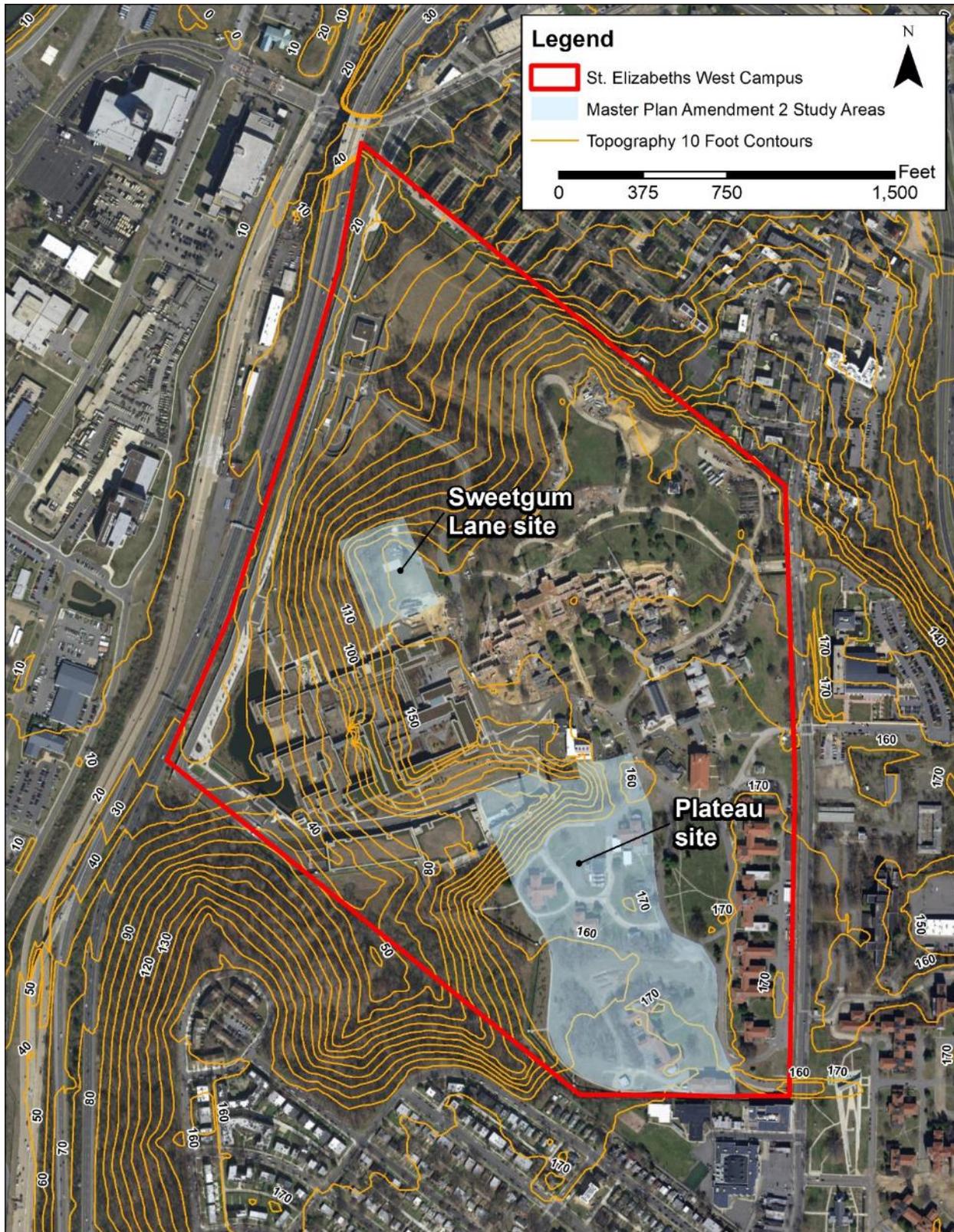
Of the 17 soil types on the West Campus, six are mapped on the plateau and Sweetgum Lane sites (Figure 3-4; Table 3-2). The Beltsville-Urban Land complex (0 to 8 percent slopes) is the most prevalent soil type on the plateau site, comprising approximately 31 percent of the site.

The remaining soil on the plateau site is 4.5 percent Sassafras gravelly sandy loam (15 to 40 percent slopes), 4.5 percent Udorthents, 2 percent Urban land, and less than 1 percent Matapeake-Urban Land complex (0 to 8 percent slopes). Within the plateau site, there is approximately 1 acre of Sassafras gravelly sandy loam (15 to 40 percent slopes), which has a severe erosion hazard and poor potential for use as building sites (USDA NRCS, 2019a). The above percentages do not include the fly ash that has been identified on portions of the plateau site. Approximately 57 percent of the plateau site has been identified as having been covered and filled with fly ash. The depth of the fly ash varies but is estimated to range from less than 1 foot to 60 feet (Haley & Aldrich, 2016).

The USDA NRCS-mapped soils may exist underneath the fly ash.

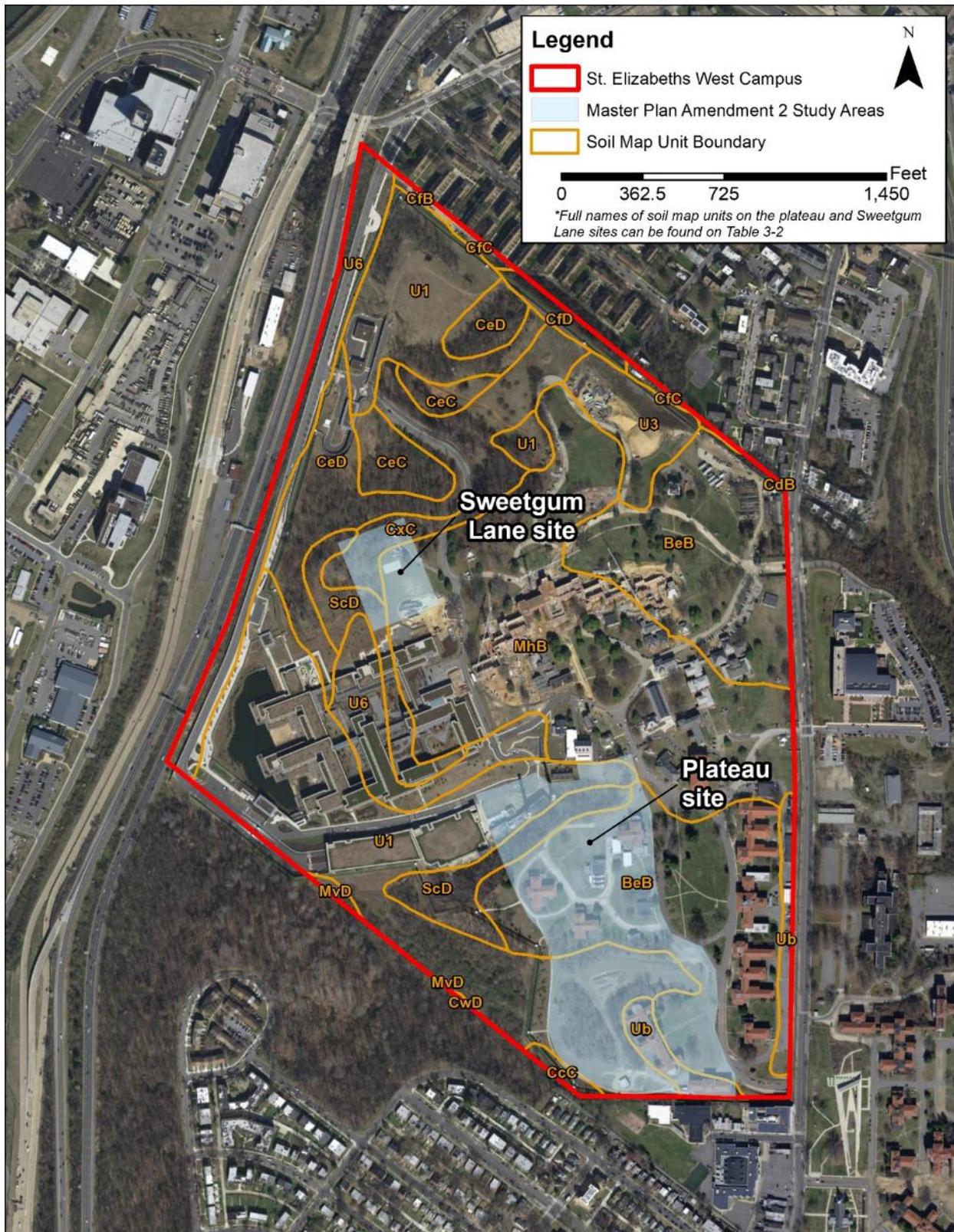
The Sassafras gravelly sandy loam (15 to 40 percent slopes) soil unit accounts for 0.6 acres or approximately 20 percent of the Sweetgum Lane site; these soils have a severe erosion hazard and poor suitability for use as building sites. The remainder of the Sweetgum Lane site is approximately 40 percent Matapeake-Urban land complex (0 to 8 percent slopes) and 40 percent Croom-Urban Land complex (8 to 15 percent slopes) (USDA NRCS, 2019a). The Sweetgum Lane site does not contain fly ash fill material.

Subsurface soil investigations have been performed as part of ongoing construction activities being performed under approved phases of the Master Plan to more definitively characterize the soil strata in the vicinity of the plateau site. The uppermost soils in this area are fill materials, including fly ash, which were placed during previous activities on the West Campus. Fill material can be found up to 16 feet below ground surface, and deeper in some areas. The shallowest natural soil deposits (below fill) consist of River Terrace deposits which are typically composed of fine and coarse-grained interbedded layers of silt, sand, clay, and gravel. The thickness of this soil stratum varies greatly and ranges from 4 to 60 feet. Soil deposits/groups differ from individual soil types in that they refer to the geologic origin and parent material of a group of soil types. The soil types listed above (as defined by NRCS) originate from either River Terrace deposits or the Potomac Group (Haley & Aldrich, 2016).



Source: DC OCTO, 2018

Figure 3-3 Topography on the West Campus



Source: USDA NRCS, 2019a

Figure 3-4 Soils on the West Campus Based on the USDA NRCS Soil Survey

Below the River Terrace deposits are other natural soil deposits from the Potomac Group. The Potomac Group deposits are typically fine and coarse-grained sand, silts, and clays. The thickness of this soil stratum also varies greatly and ranges from approximately 5 to 130 feet. The silt and clay constituents of the Potomac Group typically have high plasticity characteristics and significant potential to shrink and swell as moisture content of the soil changes. As a result, the soils of the Potomac Group could contain pre-existing failure planes (unstable areas), although their existence is highly variable and should be evaluated on a case-by-case basis prior to construction (Haley & Aldrich, 2016).

Table 3-2 Soil Types within the Plateau and Sweetgum Lane Sites

Soil Code	NRCS-Mapped Soil Type	Soil Deposit/Group	West Campus Location (Acres/Percent of Site)	Erosion Hazard
BeB	Beltsville-Urban Land complex, 0 to 8 percent slopes	River Terrace deposits	Plateau site (7/31)	Moderate to severe
CxC	Croom-Urban Land complex, 8 to 15 percent slopes	River Terrace deposits	Sweetgum Lane site (1/40)	Severe
MhB	Matapeake-Urban Land complex, 0 to 8 percent slopes	River Terrace deposits	Sweetgum Lane site (1/40) Plateau site (<0.1/0)	Moderate to severe
ScD	Sassafras gravelly sandy loam, 15 to 40 percent slopes	Potomac group	Sweetgum Lane site (0.5/20) Plateau site (1/4.5)	Severe
Ub	Urban Land	River Terrace deposits	Plateau site (0.5/2)	Onsite investigation needed to determine erosion potential
U1	Udorthents	Potomac group	Plateau site (1/4.5)	Onsite investigation needed to determine erosion potential
N/A	Fly ash	N/A	Plateau site (13/58)	N/A

NOTE: During the design process for new construction on the West Campus, geotechnical studies would be conducted, and site-specific soil surveys would be used to determine appropriate soil suitability and construction methods for each proposed building.

3.2.2 Groundwater

Perched water occurs when precipitation (rainwater, snow melt) percolates downward through the soil and collects on top of zones of relatively impervious soil (such as clay). The water is unable to percolate down to the much deeper groundwater level but accumulates temporarily on the impervious soil layers above the groundwater level. Geotechnical investigations conducted during design of new West Campus buildings identified an upper zone of perched water and a lower zone of groundwater within the plateau site. The perched water level was found approximately 23 to 28

feet below the ground surface. The naturally occurring groundwater level is much deeper, at a depth below the ground surface of approximately 107 feet (Haley & Aldrich, 2016).

Groundwater is not used for domestic, commercial, or industrial purposes in the District of Columbia (USGS, 2019).

3.2.3 Surface Water

Surface water resources generally consist of wetlands, lakes, rivers, and streams. Any discharge of fill material into Waters of the United States, which includes streams and wetlands, is a regulated activity requiring authorization by the U.S. Army Corps of Engineers (USACE) in accordance with Section 404 of the *Clean Water Act* (CWA). The CWA also establishes, through the National Pollutant Discharge Elimination System (NPDES), Federal limits on the amount of specific pollutants that can be discharged to surface waters while maintaining the chemical, physical, and biological integrity of the water. The NPDES program regulates the discharge of point (i.e., end of pipe) and nonpoint (i.e., stormwater) sources of water pollution.

The District of Columbia *Water Pollution Control Act of 1984* (DC Code Annotated § 8-103.01 et seq.) and its implementing regulations in Title 21, Chapters 11 and 19 of the District of Columbia Municipal Regulations, prohibits the discharge of pollutants into District waters, with limited exceptions. In 2013, Title 21, Chapter 5 was amended to reflect the current scientific, engineering, and practical understanding in the fields of stormwater management and soil erosion and sediment control. The 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control (2013 Stormwater Rule), included the adoption of the *Stormwater Management Guidebook* (SWMG), which provides design specifications for stormwater management Best Management Practices (BMP) that can be used to achieve compliance with Title 21, Chapter 5 of the District of Columbia Municipal Regulations (DOEE, 2013a). Amendments to these regulations were proposed by the DC Department of Energy and Environment (DOEE) in February 2019, and a revision to the SWMG has been completed to be consistent with proposed regulatory amendments, to incorporate technical changes to stormwater BMP design standards, and to clarify existing guidelines and processes (DOEE, 2019). The *District of Columbia Sediment and Erosion Control* manual provides requirements for sediment and erosion control plans for demolition and construction (DOEE, 2017).

Development on the West Campus has been completed in accordance with the St. Elizabeths Utility Integration Plan Overall Stormwater Program, which provides guidance for the design of stormwater management facilities for water quality and water quantity. The stormwater program is designed to comply with Leadership in Energy & Environmental Design (LEED) criteria, Section 438 of the *Energy Independence and Security Act* (EISA) regulations, and the 2013 Stormwater Rule and SWMG (GA, 2010).

EO 11990, Protection of Wetlands, requires Federal agencies to evaluate the likely impacts of actions in wetlands to minimize their destruction, loss, or degradation, and to preserve and enhance their natural and beneficial values.

Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3).

Wetlands perform important functions such as cleaning polluted waters, retaining floodwater, recharging groundwater aquifers, and providing valuable fish and wildlife habitat. Laws and regulations have been implemented to protect wetlands. Development in wetland areas is regulated by the USACE pursuant to the CWA, as implemented by 33 CFR 320-329, and 33 CFR 330, March 28, 2000.

St. Elizabeths is located within the Lower Anacostia River Watershed (Hydrologic Unit Code 020700100204). The Lower Anacostia River Watershed encompasses approximately 46 of the 176 total square miles of the greater Anacostia River Watershed. The Anacostia River Watershed is covered by approximately 28,160 acres of impervious surface, roughly 25 percent of its total size. The Lower Anacostia River Watershed is covered by 12,340 acres of impervious surface, approximately 42 percent of the subwatershed (EPA, 2013).

The West Campus contains portions of five small drainage areas. The majority of the Sweetgum Lane and plateau sites are within an approximately 145-acre drainage area of a first order perennial stream, which is located southwest of the West Campus. Surface water features, including streams, wetlands, stormwater facilities, and drainage areas on and surrounding the West Campus, are shown on Figure 3-5. Historic maps show indicates a stream in the ravine area (USGS 1900). However, hydrology has been altered by construction and fill activities and this stream is no longer present.

Following the 2008 EIS, a formal investigation was performed at the West Campus to identify and delineate streams and wetlands that have the potential to be subject to jurisdiction in accordance with Section 404 of the CWA. Nine jurisdictional streams, totaling approximately 4,978 linear feet, and nine jurisdictional wetlands, totaling approximately 0.5 acres, were identified and delineated within the West Campus and Shepherd Parkway (G&O, 2009).

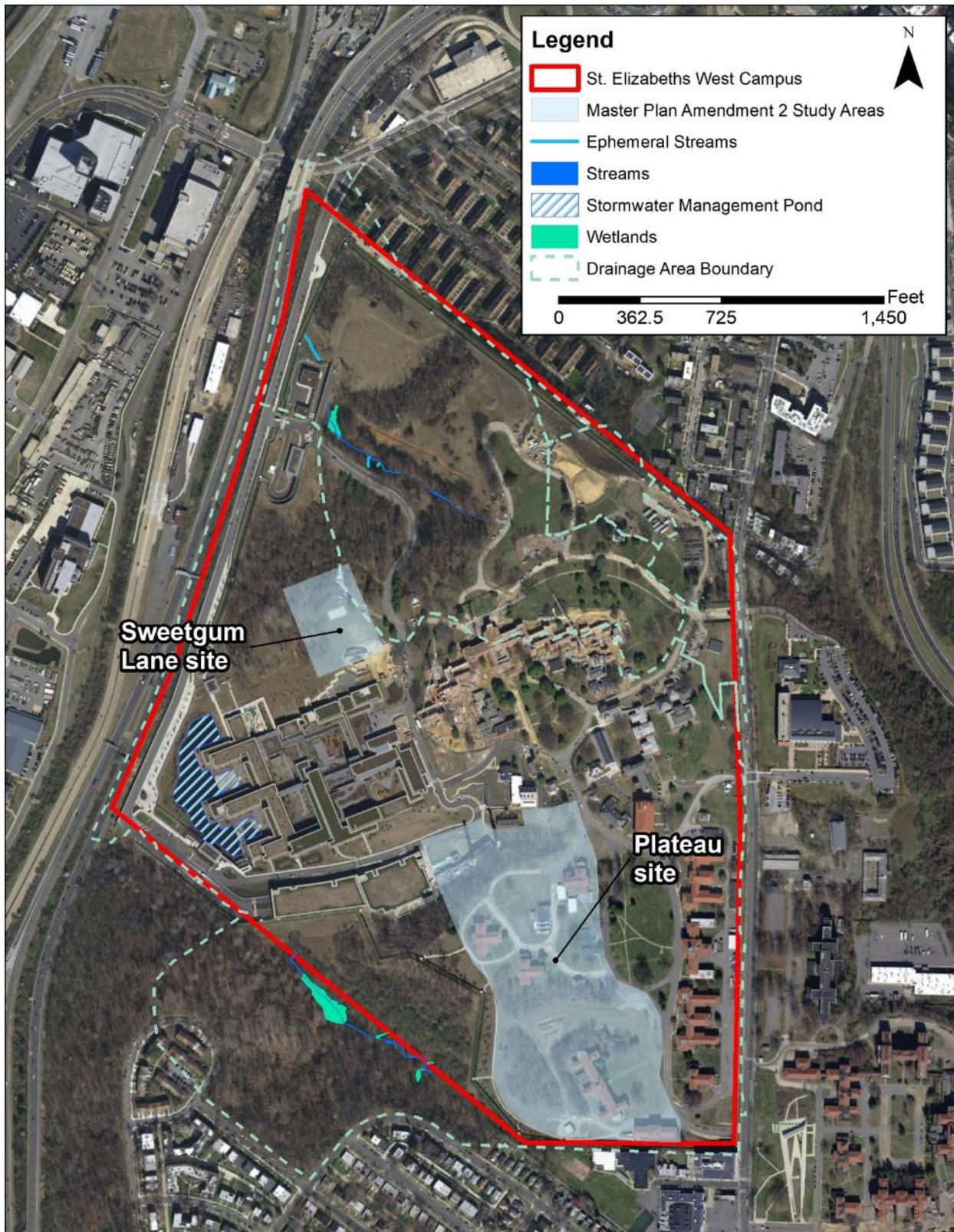
In 2010, GSA determined that construction of the Munro Building and associated features would permanently impact a total of 1,255 linear feet of stream channel and 0.05 acres of wetlands.

To compensate for these impacts, in 2017, GSA created 0.15 acres of wetlands and restored 1,271 linear feet of stream channel on the northern portion of the West Campus. The wetland creation

and stream restoration are currently being monitored to ensure compensation for impacts is obtained, as required by the USACE and DOEE.

In 2015, a wetland and stream investigation was conducted along the east side of I-295 from South Capitol Street SE to the entrance of the West Campus, including the Malcolm X Avenue SE interchange, to identify and delineate wetlands and streams subject to jurisdiction under Section 404 of the CWA (Stantec, 2015). The investigation was completed in advance of road enhancements of I-295 to accommodate the increase in traffic resulting from the redevelopment of the West Campus. Two streams, totaling approximately 376 linear feet, and three wetlands, totaling approximately 0.15 acres, were delineated within the study area of the roadway improvements. Authorizations for permanent and temporary impacts to these resources were obtained from the USACE and DOEE in 2017, and the roadway work has since been completed. Mitigation to compensate for impacts is being provided through restoration and enhancement of approximately 2.7 acres of existing degraded wetlands on Kingman Island, in association with the Anacostia Watershed Society, as required by DOEE.

A review of the 2009 and 2015 reports and mapping, as well as a review of the USFWS National Wetland Inventory (NWI) for current wetland location data, has determined that there are no streams or wetlands within the Sweetgum Lane or plateau sites (USFWS, 2019c). Stormwater drains in a westerly direction to an existing separated storm drain system at I-295, which flows north before discharging into the Anacostia River (GSA, 2008a). Most of the existing storm drain system within the West Campus predates stormwater management and water quality requirements (GSA, 2008a); however, construction of the Munro Building incorporated temporary and permanent stormwater management BMPs and facilities constructed since the 2012 EIS have accounted for the guidelines of the 2013 SWMG. GSA has, to date, installed a variety of stormwater features on the campus including bioretention, storm filters, rain tanks, permeable pavers, green roofs, and cistern systems. Stormwater from the Sweetgum Lane and plateau sites does not drain to the wet pond constructed adjacent to the Munro Building but rather drain to the storm drain system at I-295.



Source: Stantec, 2019

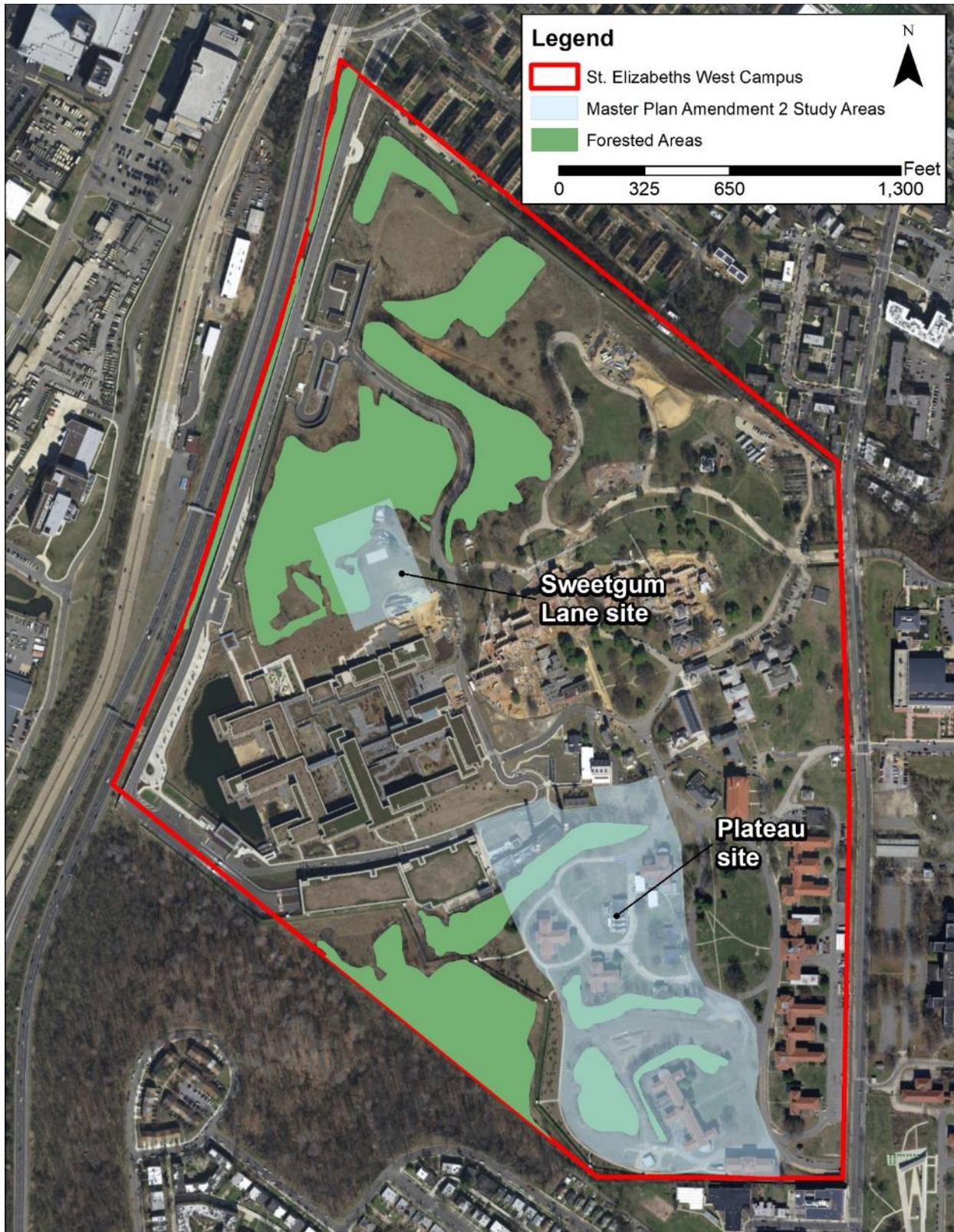
Figure 3-5 Surface Water Features near the West Campus

3.2.4 Vegetation

Vegetation on the developed portions of the West Campus consists of landscaped areas with mowed grass areas, ornamental trees and bushes, and large specimen trees. Vegetation within the undeveloped portions of the West Campus consists of early to mid-successional forests and a few herbaceous areas of natural grasses and forbs that are frequently mowed. Forested areas are primarily located within the northern portion of the West Campus and along the ravine toward the southwest (Stantec, 2019). Construction of the Munro Building resulted in the removal of forested areas on the western side of the campus. An analysis of aerial photography published in 2019 combined with field verification determined that approximately 4 acres of naturally forested lands are present on the plateau site and 1 acre of naturally forested lands is present on the Sweetgum Lane site (Figure 3-6) (Stantec, 2019).

Forested areas of the West Campus are dominated by deciduous tree species with a few evergreens dispersed throughout. A field survey was conducted in June 2019 to verify the condition of 43 specimen trees (i.e., trees with a diameter at breast height of 30 inches or greater) surveyed within the plateau site by Bartlett Tree Experts in 2009. No specimen trees were identified at the Sweetgum Lane site during the 2009 survey. Of the 43 specimen trees originally surveyed at the plateau site, 26 were found to be alive, although three were in poor condition (Figure 3-7). The remaining 17 specimen trees originally surveyed by Bartlett within the plateau site were either dead or removed. The field survey indicated that the most prevalent species within the plateau and Sweetgum Lane sites include chestnut oak (*Quercus prinus*), white oak (*Quercus alba*), American elm (*Ulmus americana*), and box elder (*Acer negundo*). Less common species include tulip poplar (*Liriodendron tulipifera*), American beech (*Fagus grandifolia*), and eastern hemlock (*Tsuga canadensis*) (Stantec, 2019).

Typical understory species in forested areas on the West Campus include pawpaw (*Asimina triloba*), sassafras (*Sassafras albidum*), and spicebush (*Lindera benzoin*). Native herbaceous vegetation includes Virginia creeper (*Parthenocissus quinquefolia*), poison ivy (*Toxicodendron radicans*), pokeweed (*Phytolacca dodecandra*), goldenrods (*Solidago* spp.), and false nettle (*Boehmeria cylindrica*). Many nonnative invasive species occur throughout the disturbed regrowth areas of the site. These include princess tree (*Panlownia tomentosa*), multiflora rose (*Rosa multiflora*), tree of heaven (*Ailanthus altissima*), English ivy (*Hedera helix*), and Asiatic tearthumb (*Polygonum perfoliatum*) (Stantec, 2019).



Source: Stantec, 2019

Figure 3-6 Forested Areas on the West Campus



Source: Stantec, 2019

Figure 3-7 Specimen Trees on the Plateau and Sweetgum Lane Sites

3.2.5 Wildlife

Wildlife on the West Campus is typical of urban and suburban settings. The 2008 EIS documented several avian species including songbirds such as the northern mockingbird (*Mimus polyglottos*), Carolina wren (*Thryothorus ludovicianus*), American robin (*Turdus migratorius*), and blue jay (*Cyanocitta cristata*). Additional species observed included a red-tailed hawk (*Buteo jamaicensis*) seen in the forests along the northwestern portion of the West Campus, and several nonnative species observed were the typical urban species including the European starling (*Sturnus vulgaris*) and the rock pigeon (*Columba livia*). During a field visit in 2019, several wild turkeys (*Meleagris gallopavo*) were also observed on the West Campus (Stantec, 2019). In addition, 24 species of migratory birds may be present on the West Campus during various timeframes throughout the year (USFWS, 2019a).

Several species of mammals are common on the West Campus including the woodchuck (*Marmota monax*), northern raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), and eastern gray squirrel (*Sciurus carolinensis*); these animals were observed during the 2019 field visit. Other mammal species likely present, but not observed during the 2019 field investigations, include the Virginia opossum (*Didelphis virginiana*), shrews (*Sorex* spp.), red fox (*Vulpes vulpes*), striped skunk (*Mephitis mephitis*), and eastern cottontail (*Sylvilagus floridanus*) (Stantec, 2019).

Eastern box turtles (*Terrapene carolina*) and the five-lined skink (*Eumeces fasciatus*) have previously been observed during fieldwork at the West Campus. Other common reptiles and amphibians that would commonly be expected on a site of this nature include the eastern fence lizard (*Sceloporus undulatus*), American toad (*Bufo americanus*), Woodhouse's toad (*Anaxyrus woodhousii*), black rat snake (*Elaphe obsoleta*), common garter snake (*Thamnophis sirtalis*), smooth earth snake (*Virginia valeriae*), and ringneck snake (*Diadophis punctatus*) (GSA, 2008a).

3.3 Cultural Resources

The cultural resource areas discussed in the following sections may be impacted by the implementation of Master Plan Amendment 2 and therefore warrant further analysis.

3.3.1 Area of Potential Effects

As detailed in the 2012 EIS for Master Plan Amendment 1, St. Elizabeths Hospital, both the East and West Campuses, was listed in the NRHP in 1979 as a historic district that is significant under Criterion A for its association with the development of methods to protect and care for the mentally ill in the United States. The NRHP designation also cites St. Elizabeths' significance under Criterion C for its collection of high-style architecture representing more than a century of the development of institutional architecture (GSA, 2012a).

St. Elizabeths Hospital was designated an NHL by the Secretary of the Interior on March 7, 1991. Designation as an NHL recognizes the national significance of the site and its exceptional value in illustrating the history of the United States. St. Elizabeths represents important 19th- and 20th-century social and humanitarian movements associated with the advancement of mental health care. It is associated with nationally significant leaders in the treatment of mental illness such as Dorothea Dix and Dr. Charles H. Nichols. St. Elizabeths is also significant for its collection of Gothic Revival, Italianate, and Renaissance Revival architecture designed by Architect of the Capitol Thomas U. Walter and by the Boston firm Shepley, Rutan and Coolidge. The period of significance for the historic district is 1852 through 1940 (GSA, 2012a).

The Area of Potential Effects (APE) for Master Plan Amendment 2 consists of a primary and a secondary APE. The primary APE is the area where Master Plan Amendment 2 has the potential to directly affect historic properties. The secondary APE is the area in which Master Plan Amendment 2 has the potential to indirectly affect historic properties.

Pursuant to Section 106 of the NHPA, consultation among GSA, DHS, DCSHPO, ACHP, NCPC, and other parties established primary (physical and visual effects) and secondary (visual effects only) APEs for the 2008 Master Plan including the entirety of the West Campus (GSA, 2008a). In 2012, the Master Plan was amended, and the APE expanded to include broader areas of the East Campus and Martin Luther King Jr. Avenue SE (including a portion of Martin Luther King Jr. Avenue SE in the Congress Heights neighborhood) than envisioned by the 2008 Master Plan. The changes also increased the areas affected within and adjacent to Shepherd Parkway (GSA, 2012a).

As detailed in the 2012 Master Plan Amendment 1, the secondary APE encompasses the remainder of the East and West Campuses and Congress Heights, parts of the Civil War Fort Sites and Fort Circle Parks System (including Shepherd Parkway and Fort Stanton), the Anacostia Historic District, Anacostia Park, Congress Heights, the Frederick Douglass National Historic Site, the Congress Heights Fire Station, Suitland Parkway, East Potomac Park, Fort McNair, the Washington Navy Yard Historic District, George Washington Memorial Parkway, Ronald Reagan Washington National Airport, and JBAB (GSA, 2012b). All of these are either listed in, are eligible for, or are potentially eligible for the NRHP. In addition to St. Elizabeths Hospital, the Washington Navy Yard Historic District is an NHL. Further description of these resources can be found in the 2008 EIS and 2012 EIS and remains unchanged since 2012 (GSA, 2008a; GSA, 2012a).

Master Plan Amendment 2 has been determined by GSA to have effects on the NHL, and therefore on the East Campus as well as the West Campus. For this reason, the primary APE is expanded for Master Plan Amendment 2, as shown in Figure 3-8 (GSA, 2008a; GSA, 2012a). This secondary APE remains appropriate for Master Plan Amendment 2 (Figure 3-9).

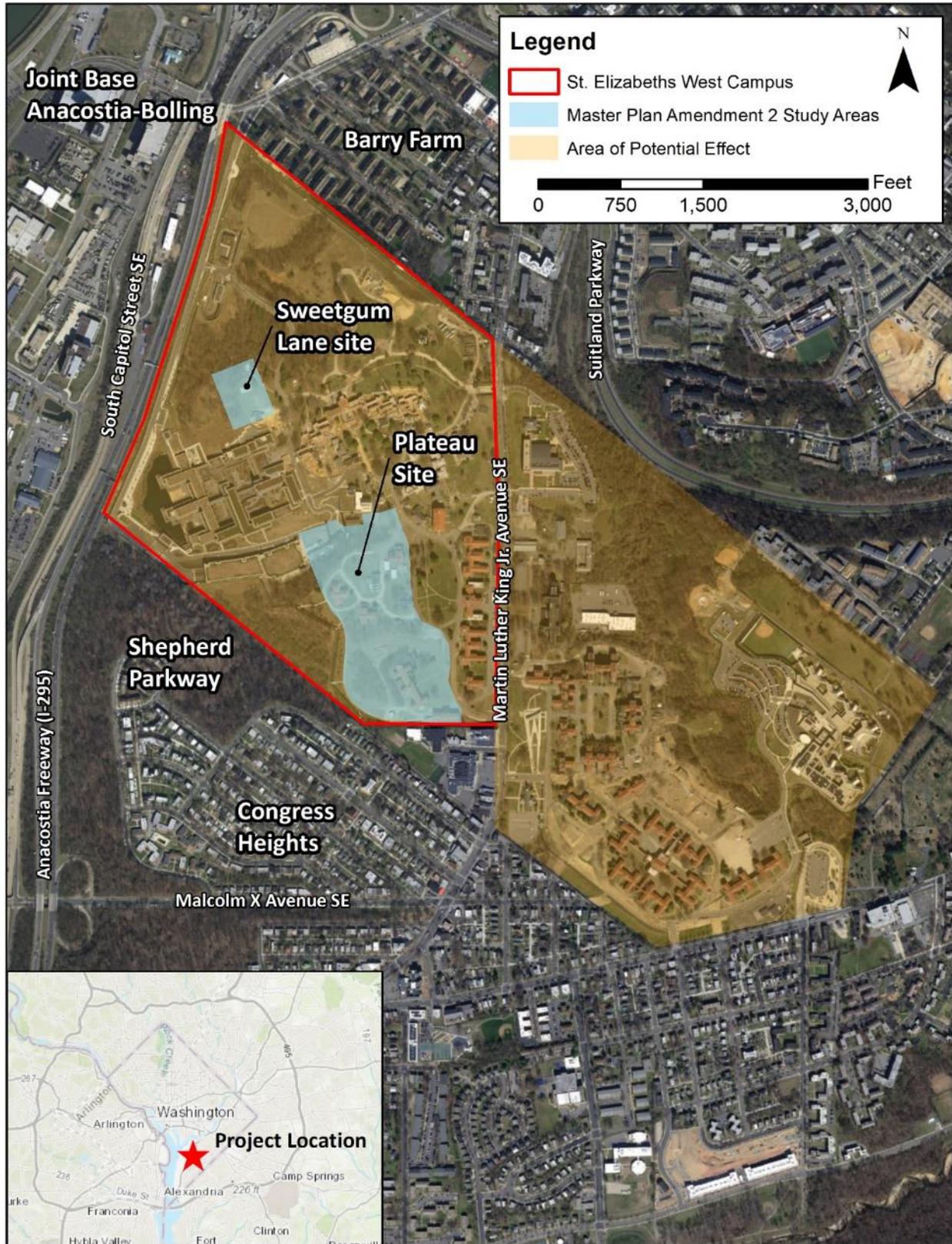
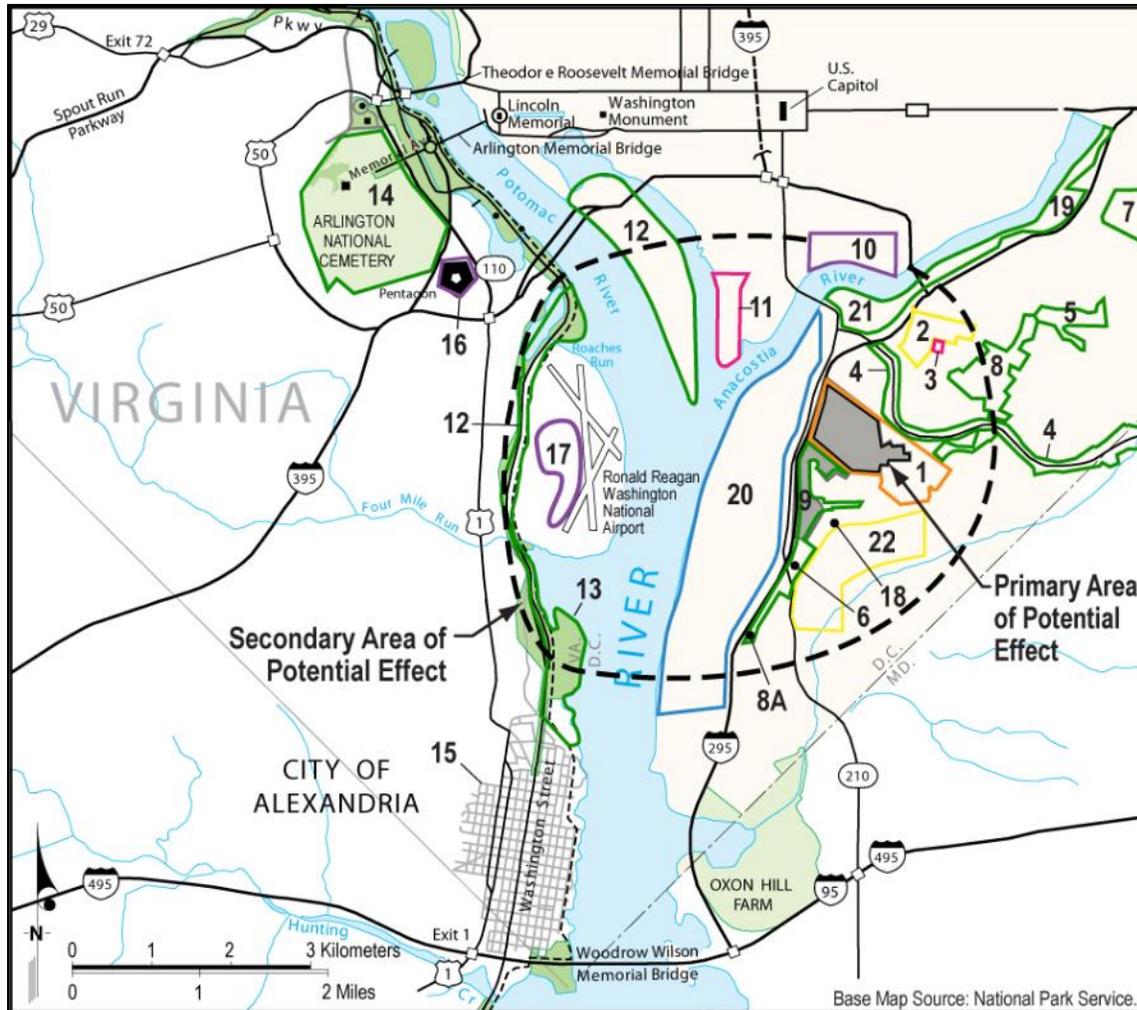


Figure 3-8 Primary APE for Master Plan Amendment 2



Historic Resources and Areas of Potential Effect

National Register Listed

- 1 St. Elizabeths NHL
- 2 Anacostia Historic District
- 3 Frederick Douglass National Historic Site (Cedar Hill)
- 4 Suitland Parkway
- Civil War Fort Sites and Fort Circle Park System
 - 5 Battery Ricketts
 - 6 Fort Carroll
 - 7 Fort Dupont
 - 8 Fort Stanton
 - 8A Fort Greble
 - 9 Shepherd Parkway
- 10 Washington Navy Yard
 - Commandant's Office
 - Quarters A and Quarters B
 - Main Gate
 - Washington Navy Yard Annex Historic District

- 11 Fort McNair
 - Army War College
- 12 East Potomac Park
- 13 George Washington Memorial Parkway
- 14 Arlington Cemetery, Custis Lee Mansion
- 15 City of Alexandria Historic District
- 16 Pentagon
- 17 Ronald Reagan Washington National Airport
- 18 Congress Heights Firehouse
- National Register Eligible**
 - 19 Anacostia Freeway
 - 20 Bolling Air Force Base/Naval Annex
 - 21 Anacostia Park
 - 22 Congress Heights Historic District

(Color outlines are for clarity only.)

Source: GSA, 2008a; GSA, 2012a

Figure 3-9 Secondary APE for Master Plan Amendment 2

3.3.2 Historic Context

The 2008 EIS and 2012 EIS describe the historic context of St. Elizabeths and the resources within the APE of Master Plan Amendment 2. The 2012 EIS incorporates additional information from archaeology studies and provides extensive analysis of the prehistoric context including climate trends, subsistence and agricultural advancements, settlement patterns, and diagnostic artifacts for Middle Atlantic Indian communities in the Paleo-Indian, Early Archaic, Middle Archaic, Late Archaic, Early Woodland, Middle Woodland, and Late Woodland periods (GSA, 2012a).

The 2008 EIS and 2012 EIS provide extensive detail on the historic context from the time of John Smith’s contact with the Nacotchtank Indians in the vicinity of the site in 1608 through the early settlement and development of the District of Columbia. Over this period, the property that became St. Elizabeths had several owners and was used primarily for agriculture. The 2008 EIS and 2012 EIS also detail the history of the development, expansion, and operation of St. Elizabeths Hospital over the period of significance from 1852 to 1940 under a series of superintendents. Both documents should continue to serve as references for historic context (GSA, 2008a; GSA, 2012a).

The 2008 EIS and 2012 EIS also describe the changes to the campus after the period of significance including the end of agricultural production on the campus and the loss of 10 acres from the western boundary of St. Elizabeths land for the construction of I-295 from 1961 to 1965. By the 1990s, all patients of St. Elizabeths had been transferred to other facilities and the West Campus was abandoned (GSA, 2008a; GSA, 2012a).

Since the 2008 Master Plan and 2008 EIS, GSA has advanced a number of projects that have transformed the historic context in alignment with the 2008 Master Plan. These projects and their respective completion statuses are listed in Table 3-3.

Table 3-3 Previously Completed and Ongoing Projects within Existing Buildings on the West Campus

Project	Project Type	Construction Start Date	Opening Date
Douglas A. Munro Building	Construction	2009	2013
Building 31 (Atkins Hall)	Rehabilitation and adaptive reuse	2010	2013
Building 33 (Dining Hall)	Rehabilitation and adaptive reuse	2010	2013
Building 34 (Detached Kitchen)	Rehabilitation and adaptive reuse	2010	2013
Building 48 (Gym)	Construction	2010	2013
Building 49 (Construction Shops)	Rehabilitation and adaptive reuse	2010	2013
Building 40 (The Rest)	Rehabilitation and adaptive reuse	2009	2009

Project	Project Type	Construction Start Date	Opening Date
Building 1-8 (Center Building)	Renovation	2014	2019
Building 37 (Hitchcock Hall)	Rehabilitation and adaptive reuse	2018	Ongoing
Building 45 (West Addition)	Construction including removal of the interim egress stair adjacent to the Center Building	2017	Ongoing
Central Utility Plant (CUP)	Construction	2009	2012
CUP2	Construction	2018	Ongoing

The campus landscape, including its character-defining features that contribute to the NHL, is under the care of the GSA Regional Horticulturalist, and localized landscape improvements are being implemented as buildings are rehabilitated or constructed.

In addition to the building construction, rehabilitation, and adaptive use completed or currently underway, GSA has completed the installation of signage describing the history and significance of the site along Martin Luther King Jr. Avenue SE. The design and implementation of an interpretive signage program on campus are underway. The cemetery is under perpetual care by the GSA Regional Horticulturalist.

3.3.3 Historic Properties in the Primary Area of Potential Effects

The St. Elizabeths Hospital NHL registration form has been used to identify significant buildings that are within or adjacent to the footprint of the plateau and Sweetgum Lane sites and that have the potential to be affected by Master Plan Amendment 2. This methodology is consistent with the procedure used for the 2008 EIS for the Master Plan and 2012 EIS for Master Plan Amendment 1. Five site parcels were defined in the 2008 Master Plan, and these same site parcels have been used in this analysis for consistency (GSA, 2008b).

All contributing buildings within the East and West Campuses are within the primary APE, and contributing buildings within Site Parcel 1, Site Parcel 2, and Site Parcel 4 of the West Campus are within or adjacent to the plateau and Sweetgum Lane sites. The location of each building and the site parcel boundaries are shown in Figure 3-10. They remain unchanged for Master Plan Amendment 2. Based on the 2008 EIS, 2012 EIS, 2010 Historic Structures Reports, and 2014 updated conditions assessment, the existing conditions of contributing buildings within or adjacent to the plateau or Sweetgum Lane sites are detailed below. All contributing buildings on the West Campus, including the potentially affected buildings described below, have been documented as part of the Historic American Building Survey (HABS) and submitted to the Library of Congress.

Table 3-4 Potentially Affected Contributing Buildings in Site Parcel 1

Building	Stories	Historical		Structure		
		Date	Significance	Walls	Floor	Roof
15	2	1924	Support	Tile bearing	Wood	Wood

*This table is based on information from the 2008 Master Plan for St. Elizabeths, Historic Structure Reports prepared for GSA in 2010, and updated conditions assessment 2014.

Site Parcel 2

Superintendent Alonzo Richardson undertook a major expansion of the West Campus to address overcrowding and update the overall facilities to the most advanced thinking in mental health treatment at the turn of the 20th century. Planning occurred in 1900 and 1901 for nine large hospital buildings, located on a southern portion of the West Campus on land previously used for agricultural production. The new buildings were designed by the Boston-based Shepley, Ruten and Coolidge architectural firm in the Italian Renaissance Revival style. Large open porches and terraces extend the interior into the landscape and enabled patients to benefit from the outdoor air and views. The buildings are organized along curvilinear roads facing a large open lawn and became known as the lettered buildings (GSA, 2008b; WJE, 2010; WJE, 2014).

After Richardson’s death, the expansion proceeded under Superintendent William Alanson White, with most buildings completed in 1903. The lettered buildings were constructed simultaneously and feature exterior detailing of corbelled brick and buff Ohio sandstone, and a Conosera clay tile roof manufactured by the Celadon Terra Cotta Company (WJE, 2010; WJE, 2014).

Buildings 60, 66, 64, 72, and 68 (J, K, L, M, and Q Buildings, respectively) were each designed to house 45 to 60 patients and served as detached hospital wards for female chronic patients needing medical care. Building 69 (E Building), also part of the grouping, faces the lawn at the south end of the West Campus and was designed to function as nurses’ quarters. The following contributing structures are within or adjacent to the plateau site and have the potential to be affected by Master Plan Amendment 2 (WJE, 2010; WJE, 2014). Details for these buildings are listed below in Table 3-5.

Building 60 (J Building) is at the western edge of the plateau and ringed by a curvilinear roadway on all sides. The building served as a patient pavilion for chronically ill female patients. The interior space was divided into activity and rest areas, with living spaces on the first floor and dormitory and bedroom spaces on the second floor. The building has been altered from its original construction through repairs, modernization, and accessibility improvements. It was renovated in 1981 and converted to office use in 1994 (WJE, 2010; WJE, 2014).

Building 64 (L Building) fronts the South Lawn and is surrounded by curvilinear access paths at the south end of the West Campus. The building served as a patient pavilion for “better-class” white female patients and has a higher level of interior finishes. The interior space was divided into activity and rest spaces, with the living spaces on the first floor and dormitory and bedroom spaces on the second floor. It has been altered from its original construction over time through repairs, maintenance, and accessibility improvements (WJE, 2010; WJE, 2014).

Building 66 (K Building) is between Building 60 and Building 67 along a curvilinear access road to its north. Originally, it housed chronically ill white female patients and continued to function as a patient ward building although the type of patients changed over time. It has been altered and modified from its original condition including the conversion of the south porch to an enclosed workshop (WJE, 2010; WJE, 2014).

Building 67 (Staff Residence No. 5) is directly east of Building 65 (the K Building) along the curve of the internal road. It was constructed in 1924 to house staff for the Female Department of the hospital. Four other nearly identical staff residences built in 1924 are located throughout the St. Elizabeths Hospital property. It is constructed in the American Foursquare building style, with an approximately square floor plan with four rooms on each floor and modest architectural detail (WJE, 2010; WJE, 2014).

Building 68 (Q Building) is at the south end of the south lawn, east of the E Building of Administrative Row. It is a two-story brick structure. It served as a patient pavilion for those requiring more intensive medical attention including the “most disturbed class” of African American female patients. Because of the unique needs of these patients, it was located close to the E Building, which housed the St. Elizabeths Hospital nurses. A hydrotherapy room was added, and there were other repairs and alterations including the conversion of the basement kitchen to a beauty parlor. By 1994, it was converted to office space (WJE, 2010; WJE, 2014).

Building 69 (E Building) is at the southern edge of the West Campus, bordering the Congress Heights neighborhood to the south. It is perpendicular to Administrative Row (Buildings 72, 73, 74, and 75) and the curvilinear access road that divides their front facades and the South Lawn and other landscaped areas. It served as a home for nurses. Piazzas were incorporated into the structure and partially enclosed (WJE, 2010; WJE, 2014).

Building 72 (M Building), Building 73 (C Building), and Building 75 (B Building) are all patient pavilions fronting a curvilinear Redwood Street and the South Lawn as part of Administrative Row. They are part of a group of 11 patient pavilions designed by Shepley, Rutan and Coolidge as part of the expansion consisting of Buildings 60, 64, 66, 68, 72, 73, 75, 89, 94, 95, and 100.

The buildings were designed as cottages and were multi-story brick structures on brick foundations, incorporating an open patient dormitory, communal dining and sitting rooms, and wide piazzas that extended the interior space (WJE, 2010; WJE, 2014).

Building 74 (A Building) was designed as an Administrative Building to replace the aging Center Building and its overcrowded conditions. The A Building housed administrative and medical offices including the superintendent’s office. It was considered the most important of the lettered building group and was marked by a three-story colonnaded front entrance portico (WJE, 2010; WJE, 2014).

Building 62 (Transformer Room), a small 154 -square foot outbuilding, is within the footprint of the plateau site but is no longer extant (WJE, 2010; WJE, 2014).

Table 3-5 Potentially Affected Contributing Buildings in Site Parcel 2

Building	Stories	Historical		Structure		
		Date	Significance	Walls	Floor	Roof
60 J Building	2	1902	Architecture, health/medicine	Brick bearing	Wood/steel	Wood and tile
64 L Building	2	1903	Architecture, health/medicine	Brick bearing	Wood/steel	Wood and tile
66 K Building	2	1903	Architecture, health/medicine	Brick bearing	Wood/steel	Wood and tile
67 Staff Residence #5	2	1924	Support	Tile bearing	Wood	Wood
68 Q Building	2	1902, 1935	Architecture, health/medicine, ethnic	Brick bearing	Wood/steel	Wood and tile
69 E Building	4	1902	Architecture, health/medicine	Brick bearing	Concrete/steel	Wood/steel and tile
72 M Building	2	1902	Architecture, health/medicine	Brick bearing	Concrete/steel	Wood
73 C Building	2	1902	Architecture, health/medicine	Brick bearing	Tile/steel	Wood
74 A Building (Administrative)	3	1904	Architecture, health/medicine, persons	Brick bearing	Wood/steel	Wood
75 B Building	2	1902	Architecture, health/medicine	Brick bearing	Tile/steel	Wood

*This table is based on information from the 2008 Master Plan for St. Elizabeths, Historic Structure Reports prepared for GSA in 2010, and updated conditions assessment 2014.

Site Parcel 4

Service areas for the campus were located below the plateau (Site Parcel 2) as part of the area designated Site Parcel 4 in the 2008 Master Plan (GSA, 2008b). The following contributing structures are within or adjacent to the plateau site and have the potential to be affected by Master Plan Amendment 2. Details for these buildings are listed in Table 3-6.

Building 52 (Ice House/Boiler House) was constructed in 1892 as part of a series of infrastructure projects to improve conditions at St. Elizabeths and have it become a more self-sufficient campus. It served as a boiler house, providing steam for heating and cooking. The building was considered inadequate by 1899, and once the Power House was fully operational, it was no longer used. The building was modified when it was converted to an ice house in 1917 (WJE, 2010; WJE, 2014).

Building 56 and Building 57 (Power House) are two adjoining buildings. Building 56 was constructed as part of the Richardson expansion and provided heat to the new buildings and power to light the entire facility. A railroad spur was constructed from the Baltimore and Ohio Railroad line that provided coal directly to the Power House; this feature is no longer extant. Building 57 was erected in 1910 to expand the capacity of the plant. Both buildings were remodeled in 1915 with new boilers that allowed for the campus' energy needs to be met solely at that location. Subsequent upgrades and modifications occurred over the following decades including significant alterations in 1934. The 235-foot tall masonry smokestacks are a highly visible building feature and have been consistently identified by the Consulting Parties as an important consideration in planning for viewsheds (WJE, 2010; WJE, 2014).

Table 3-6 Potentially Affected Contributing Buildings in Site Parcel 4

Building	Stories	Historical		Structure		
		Date	Significance	Walls	Floor	Roof
52 Boiler House, Ice House	1 ½	1892	Architecture, health/medicine, rarity	Brick bearing	Wood	Wood
56 & 57 Power Plant	1/3	1902, 1910, 1915, 1934 (significant alterations)	Architecture, health medicine	Brick bearing	Wood	Wood

*This table is based on information from the 2008 Master Plan for St. Elizabeths, Historic Structure Reports prepared for GSA in 2010, and updated conditions assessment 2014.

East Campus

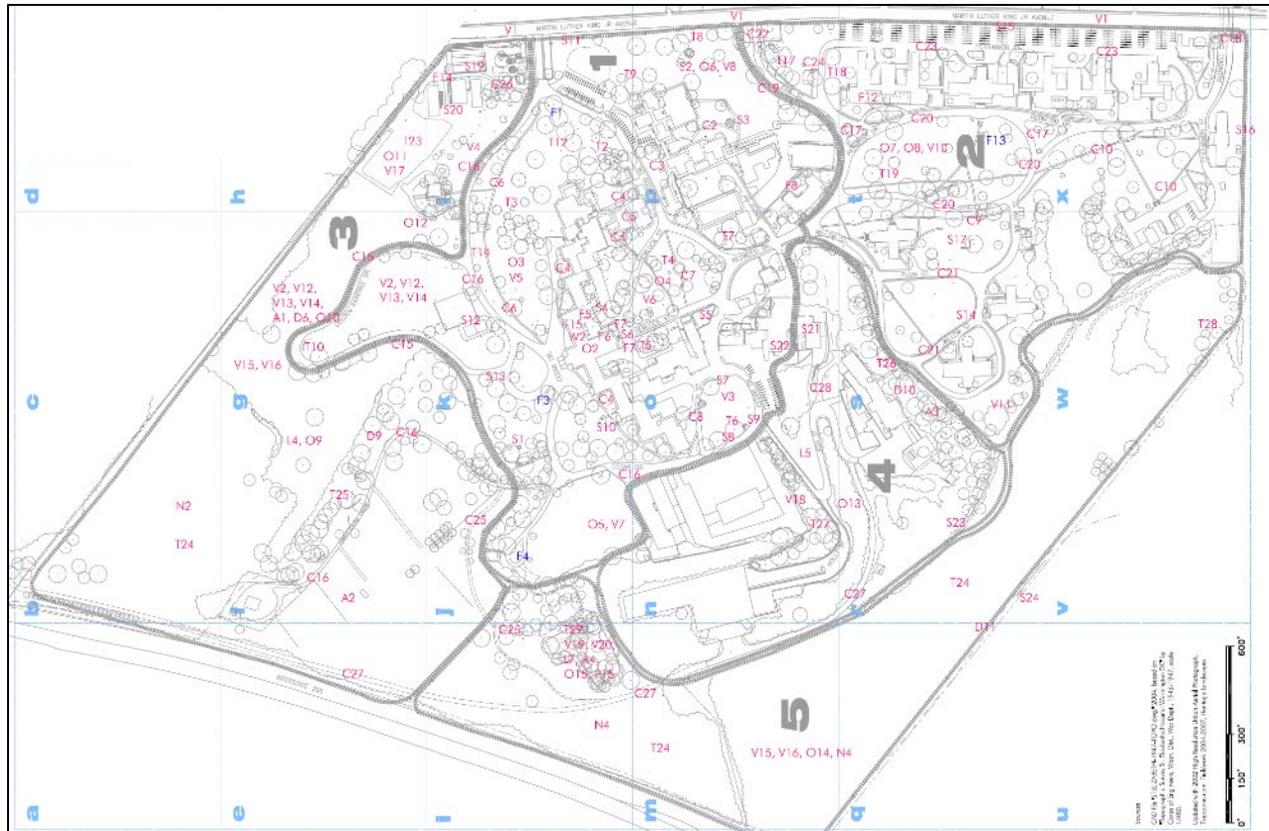
The Richardson-era expansion also included a number of buildings on the East Campus, across Martin Luther King Jr. Avenue SE from the West Campus. Four patient pavilions on the East Campus, Building 89, Building 94, Building 95, and Building 100, were part of the expansion and the historic core of the East Campus. The buildings are aligned north to south along Oak Street; Sycamore Street runs to the west of the buildings, and Redwood Drive connects as part of a tunnel underneath Martin Luther King Jr. Avenue SE between the East and West Campuses. In the NHL nomination, these four buildings are described as a group, similar in style, built in 1902 of red brick with white stone trim. All four served as patient pavilions (NPS, 1990).

3.3.4 Landscape Resources

During the development of the 2008 Master Plan, a Cultural Landscape Assessment Plan and Cultural Landscape Report (CLR) were prepared for the West Campus. That documentation has been updated and further refined into a Landscape Preservation Plan (LPP) and Landscape Integration Plan (LIP) to guide projects on the West Campus. Historic American Landscape Survey (HALS) documentation has also been prepared for the West Campus. Landscape resources that are proximate to the plateau or Sweetgum Lane sites are described in the following paragraphs, using these documents for reference.

The cultural landscape of St. Elizabeths derives its significance from how the buildings are organized by function, the natural setting, and the meandering roads and paths throughout the APE. Changes since the 1940s are non-contributing to the site's historic integrity. Elements include land uses, natural systems, spatial organization and land patterns, views and visual relationships, topography and drainage, vegetation, circulation, landscape structures, constructed water features, and small-scale furnishings and objects (Heritage Landscapes, 2009).

The integrity of the landscape is based on location, design, setting, materials, workmanship, feeling, and association. The CLR and LPP divide the campus into five descriptive units based on the spatial organization, historical evolution, and function of the hospital landscape. They include: Landscape Unit 1: Therapeutic and Ornamental Landscape around Center Building with Panoramic Overlook; Landscape Unit 2: Therapeutic and Ornamental Landscape around Pavilions; Landscape Unit 3: Agricultural Landscape Fields and Greenhouses; Landscape Unit 4: Service Landscape and Ravine; and Landscape Unit 5: Historic Cemetery and Woodland Slopes. Figure 3-11 from the CLR, referenced in both the 2008 Master Plan and 2012 Master Plan Amendment 1, shows the location of the Landscape Units as well as the location plan for the contributing features discussed in the following pages (Heritage Landscapes, 2009).



SYMBOL KEY	
	LANDSCAPE UNIT BOUNDARIES
	CAMPUS LOCATION GRID
	T28 CONTRIBUTING FEATURES
	O17 NON-CONTRIBUTING FEATURES
<hr/>	
OVERALL CAMPUS FEATURE OR DESIGN CONCEPT	
N1, L1, L3, O1, V9, D1, D2, T1, C1, C11, C12, C14, F10, F11	

Source: Heritage Landscapes, 2009

Figure 3-11 St. Elizabeths Location Plan for Landscape Contributing Features from 2009 Cultural Landscape Report

Table 3-7 includes contributing features to the cultural landscape that are an overall campus feature or concept across all Landscape Units. The plateau site is located within or adjacent to Landscape Units 2 and 4, and the Sweetgum Lane site is located within or adjacent to Landscape Units 1, 3, and 5. Therefore, the Landscape Units are grouped and discussed accordingly below.

Table 3-7 St. Elizabeths West Campus LPP Character-Defining Landscape Features for Overall Campus or Design Concept

LPP No.	Landscape Character—Defining Feature	2009 Status
Vegetation		
T1	Trees in an arboretum style planting over turf	Degraded
Circulation		
C1	Graceful and sweeping pedestrian circulation program	Modified
C11	Graceful and sweeping vehicular circulation program	Degraded
C12	Narrow radii historic drop-off loops at building entrances	Degraded
Spatial Organization and Land Patterns		
O1	Hospital boundary and total acreage	Modified
Topography and Drainage		
D1	Prehistoric Anacostia Riverbank Plateau	Retained
D2	Slopes and ravines separating the historic campus from related service and agricultural services	Degraded
Views and Visual Relationships		
V9	Visual relationship between the architecture of the Monumental Core and the Power Plant smokestacks	Retained
Small-scale Features, Furnishings, and Objects		
F10	Historic fire hydrants	Degraded
F11	Wood slat and metal strap benches	Degraded
Land Uses and Cultural Traditions		
L1	Landscape maintenance activity	Modified
L3	Therapeutic use of the hospital landscape	Modified
Natural Systems and Features		
N1	Prehistoric Anacostia River dynamics shape campus landforms	Retained

Source: Heritage Landscapes, 2009; Heritage Landscapes, 2010

Note: The Cultural Landscape Unit feature numbers are keyed to the landscape unit descriptions used throughout that document.

Landscape Unit 2 and Landscape Unit 4

The plateau site is located within or adjacent to areas of Landscape Unit 2: Therapeutic Ornamental Landscape around Pavilions and Secondary Entrances. Characterized by an open lawn planted with specimen trees and a network of curvilinear roads and walks, Landscape Unit 2 encompasses the expansion of hospital facilities begun under Superintendent Alonzo Richardson at the beginning of the 20th century. Portions of Landscape Unit 4: Service Landscape and Ravine around Power House and Service Buildings could also potentially be affected by Master Plan Amendment 2.

Landscape Features that are proximate to the plateau site in Landscape Unit 2 and Unit 4 are described in Table 3-8.

Table 3-8 St. Elizabeths West Campus LPP Character-Defining Landscape Features Proximate to the Plateau Site in Landscape Unit 2 and Landscape Unit 4

Landscape Unit	LPP No.	Landscape Character—Defining Feature	2009 Status
Vegetation			
2	T19	Oak row/hedgerow east of L Building	Degraded
2	T24	Woodland along west slopes towards Anacostia River along northwest, west, and southwest property boundaries (oak, beech, maple, elm species)	Expanded, New Growth
4	T26	High-quality woodland patch with older specimens in the ravine south of the Power House	Retained
Circulation			
2	C9	Paved concrete walk south of L Building	Retained
2	C10	Paved concrete walk connecting E Building toward L Building	Retained
2	C20	Spruce Street and Redwood Drive Loop (Paved Loop Road at Richardson Quadrangle)	Modified
2	C21	Willow Street and Plum Street loop layout	Modified
Views and Visual Relationships			
2	V1	Views of walls and West Campus gates along Martin Luther King Jr. Avenue SE	Retained
2	V11	Slot view to Monumental Core and Buildings J and K	Retained
4	V18	Internal views of service and industrial landscape	Retained
Topography and Drainage			
4	D10	Power House ravine	Modified
Landscape Structures			
2	S14	Iron drainage gate at Toner/Oaks Complex Road	Retained
2	S16	Stone wall at perimeter of hospital from Administrative (A) Building to Building Q	Degraded
2	S17	Brick and iron retaining wall at site of Toner Building	Degraded
Archaeological Sites			
4	A3	20 th -century hospital-era potential at Power House ravine dump: Artifacts include utilitarian china and other artifacts from the first half of the 20 th century	Retained
Land Uses and Cultural Traditions			
4	L5	Service and support land uses	Modified

Source: Heritage Landscapes, 2009; Heritage Landscapes, 2010

Note: The Cultural Landscape Unit feature numbers are keyed to the landscape unit descriptions used throughout that document.

Landscape Unit 1, Landscape Unit 3, and Landscape Unit 5

The Sweetgum Lane site is located partially within Landscape Unit 1: Therapeutic, Ornamental Landscape and Overlook around Center Building and Main Gate and directly above Landscape Unit 5: Civil War Cemetery and West Slope and Landscape Unit 3: Agricultural Landscape Fields and Greenhouses. As a result, the Sweetgum Lane site is proximate to character-defining features in small areas of all three landscape units and are described in Table 3-9.

Table 3-9 St. Elizabeths West Campus Landscape Preservation Plan Character-Defining Landscape Features Proximate to the Sweetgum Lane Site in Landscape Unit 1, 3, and 5

Landscape Unit	LPP No.	Landscape Character—Defining Feature	2009 Status
Vegetation			
3, 5	T24	Woodland along west slopes towards Anacostia River along northwest, west, and southwest property boundaries (oak, beech, maple, elm species)	Expanded, New Growth
Natural Systems and Features			
5	N4	Woodland cover on west slope	Expanded, New Growth
Circulation			
1	C16	Cedar Drive and Sweetgum Lane layout (paved Main Loop road from Main Loop Road at Upper plateau/portion of Lowlands)	Modified
3	C25	Unpaved agricultural road between Cemetery and Sweetgum Lane	Degraded
Spatial Organization and Land Patterns			
1	O5	Athletic Field Landscape	Retained
Views and Visual Relationships			
1	V3	Episodic views and vistas from high ground of Unit 1 to rivers and Monumental Core	Modified
1, 3, 5	V13	Perception of river access	
1	V7	Athletic Field visual zone	Retained
3,5	V15	Views across wooded areas	Expanded
3, 5	V16	Views from points across the river to the Topographic Bowl of the wooded Anacostia riverbank and St. Elizabeths Hospital	Expanded
5	V20	Internal views of Cemetery	Modified
Land Uses and Cultural Traditions			
5	L7	Veneration of Cemetery	Retained

Source: Table is derived from the 2009 St. Elizabeths Cultural Landscape Report and the 2010 95% Draft St. Elizabeths West Campus Landscape Preservation Plan, both by Heritage Landscapes. The Cultural Landscape Unit feature numbers are keyed to the landscape unit descriptions used throughout that document.

Tree Protection Areas

The LPP identified tree protection areas throughout the West Campus. The primary APE contains tree protection areas that are within or proximate to the plateau and Sweetgum Lane sites. The tree protection areas to the south of Building 66 and north of Building 68 are also proximate to the plateau site as well as the tree protection area from the rear of Building 56/57 to the edge of the plateau north of Building 60 and Building 64. These areas consist of a mix of woodland trees.

Tree protection areas are also located west and downslope of the Sweetgum Lane site. Figure 3-12 is a diagram from the LPP which identifies tree protection areas, shown in green and outlined with red on the map (Heritage Landscapes, 2010). Areas shown in beige in Figure 3-12 are construction areas where tree loss is assumed.



Source: Heritage Landscapes, 2010

Figure 3-12 St. Elizabeths Tree Protection Areas

Views and Visual Zones

The following is a description of views and visual spaces within the primary APE that have the potential to be affected by Master Plan Amendment 2. Buildings 64, 67, 68, and 69 are part of an array around an open lawn and part of a primary visual zone as identified in the LPP. The view in this area is of green lawn and extensive trees in an arboretum-style planting over turf. In non-winter months, these trees obscure many views of the buildings to the west of the lawn, while Building 69 to the south and the Administrative Row buildings to the east of the lawn are highly visible.

The Sweetgum Lane site is located in a secondary visual zone and is proximate to a secondary intermittent viewshed identified in the LPP. The area is currently a wide grassy lawn of the historic athletic field.

The West Campus Cemetery is a contributing feature of Landscape Unit 5, and views from this feature are proximate to the Sweetgum Lane site.

Views between the East and West Campuses, including the view along Redwood Drive, exist and are proximate to the plateau site.

The plateau and Sweetgum Lane sites are proximate to views that are contributing features across multiple Landscape Units or the full campus including views across wooded areas, to the river and Monumental Core, and internal views of the service and industrial landscape (Heritage Landscapes, 2009; Heritage Landscapes, 2010).

3.3.5 Historic Properties in the Secondary Area of Potential Effects

The secondary APE for Master Plan Amendment 2 is adapted from the 2008 EIS and 2012 EIS and is the area in which Master Plan Amendment 2 has the potential to indirectly affect historic properties, primarily as a result of visual impacts.

The 2008 EIS and 2012 EIS have extensive documentation of the historic properties within the secondary APE including Congress Heights Firehouse and eligible Congress Heights Historic District, Civil War Fort Sites and Fort Circle Park System, Anacostia Historic District, Frederick Douglass National Historic Site (Cedar Hill), Suitland Parkway, Washington Navy Yard NHL, Washington Navy Yard Annex Historic District, Fort McNair, East Potomac Park, George Washington Memorial Parkway, Ronald Reagan Washington National Airport, Bolling Air Force Base Historic District, and Anacostia Park (GSA, 2008a; GSA, 2012a).

3.4 Social and Economic Resources

The social and economic resource areas discussed in the following sections may be impacted by the implementation of Master Plan Amendment 2 and therefore warrant further analysis.

3.4.1 Land Use Planning and Zoning

The Comprehensive Plan for the National Capital

The Comprehensive Plan for the National Capital (Comprehensive Plan) is a planning document that outlines goals, objectives, and planning policies to manage growth and development of the national capital for the next 20 years. It is composed of two parts: (1) Federal Elements and (2) District of Columbia Elements.

The Federal Elements are prepared by the NCPC, which is the central planning agency for the Federal Government in the NCR. The Federal Elements are prepared pursuant to Section 4(a) of the National Capital Planning Act of 1952. The eight Federal Elements presented in the *Comprehensive Plan* are: (1) Urban Design; (2) Federal Workplace; (3) Foreign Missions and International Organizations; (4) Transportation; (5) Parks & Open Space; (6) Environment; (7) Historic Preservation; and (8) Visitors and Commemoration. The Federal Elements were last updated in 2016 and include the new Urban Design Element. The Parks & Open Space Element was updated in 2018 and went into effect in February 2019. NCPC completed a parking study in 2017, and a draft update of the Federal Transportation Element was released for public comment in 2019 (NCPC, 2016).

The District of Columbia Elements focus specifically on the District of Columbia and contain a broad range of objectives and policies to help guide public decisions by District and Federal agencies. There are 13 District of Columbia Elements: (1) Framework; (2) Land Use; (3) Transportation; (4) Housing; (5) Environmental Protection; (6) Economic Development; (7) Parks, Recreation, and Open Space, (8) Urban Design; (9) Historic Preservation; (10) Community Services and Facilities; (11) Educational Facilities; (12) Infrastructure; and (13) Arts and Culture. The District of Columbia Elements, which were revised in 2006, were prepared by the Mayor and were adopted by the Council of the District of Columbia (DCOP, 2006a).

The *Comprehensive Plan* also includes ten Area Elements for the different areas of the District of Columbia. The West Campus is within the Far Southeast/Southwest Area Element. The Far Southeast/Southwest Planning Area encompasses the area east of the I-295 and south of Good Hope Road SE/Naylor Road SE (DCOP, 2006a).

Federal Elements

The Federal Elements of the *Comprehensive Plan* provide criteria for the location of Federal facilities and provide policies on Federal employment in the NCR.

Urban Design Element: The Federal Government’s goal is to “promote quality design and development in the NCR that reinforces its unique role as the nation’s capital and creates a welcoming and livable environment for people” (NCPC, 2016). Policies of the Urban Design Element are related to (NCPC, 2016):

- Form and Character of the Nation’s Capital
- Federal Facilities, Property, and the Public Realm

Federal Workplace Element: The Federal Government’s goal is to, “locate the Federal workforce in a way that enhances the efficiency, productivity, value, and public image of the Federal Government; strengthens the NCR’s economic well-being; and emphasizes the District of Columbia as the seat of the Federal Government” (NCPC, 2016). The Federal Workplace Element provides policies for the deployment and operation of Federal workplaces throughout the NCR and includes policies related to:

- Locating Federal Workplaces
- Developing and Managing Federal Workplaces
- Reusing Federal Space and Land

The Foreign Missions and International Organizations Element of the *Comprehensive Plan* does not apply as there are no plans for inclusion of foreign missions or international organizations on or near the West Campus.

Transportation Element: For the Transportation Element, the goal of the Federal Government is to “develop and maintain a multi-modal regional transportation system that meets the travel needs of workers, residents, and visitors, while improving regional mobility, accessibility, air quality, and environmental quality through expanded transportation alternatives and transit-oriented development” (NCPC, 2016). The 2019 draft update to the Transportation Element introduces four guiding principles. These include advancing a transportation system to meet regional planning goals; integrating a range of equitable mobility options; encouraging development patterns that connect land use and transportation; and promoting efficient and sustainable travel (NCPC, 2019b).

Policies included in the Transportation Element are related to:

- Integrated Regional Transit
- Parking and Parking Ratios
- Transportation Management Plans (TMP)
- Transportation Demand Management
- Active Commuting and Bicycling for Federal Employees
- Shuttles and Circulators
- Non-Auto-Oriented Transportation, Tourism, and Development Interests
- Investment Priorities

Parks & Open Space Element: The Parks & Open Space Element was adopted in 2018 and went into effect in February 2019. Under this element, it is the goal of the Federal Government to “protect and enhance the National Capital Region’s parks and open space system—for recreation; as commemorative and symbolic space; as social, civic, and celebratory space; and to provide environmental and educational benefits” (NCPC, 2019a). Policies in the Parks & Open Space Element are related to:

- Protecting the Historic Features Parks and Open Space
- Encouraging Stewardship of Natural Resources
- Balancing Commemorative Works within Parks
- Improving Access to, and Connections between, Parks and Open Space
- Balancing Multiple Uses within Parks
- Building a Cohesive Parks and Open Space System

Federal Environment Element: It is the goal of the Federal Government to “promote the National Capital Region as a leader in environmental stewardship and sustainability; the Federal Government seeks to preserve and enhance the quality of the region’s natural resources to ensure that their benefits are available for future generations to enjoy” (NCPC, 2016). Policies for the Federal Environment Element are related to:

- Climate Change
- Air Quality
- Water Resources and Stormwater Management

- Flooding
- Waterbodies and Wetlands
- Soils
- Tree Canopy and Vegetation
- Wildlife
- Solid Waste and Hazardous Materials
- Light Pollution
- Noise Pollution
- Energy
- Radiofrequency Radiation and Electromagnetic Fields
- Environmental Justice

Historic Preservation Element: It is the goal of the Federal Government to “preserve, protect, and rehabilitate historic properties in the NCR and promote design and development that is respectful of the guiding principles established by the Plan of the City of Washington and the symbolic character of the capital’s setting” (NCPC, 2016). Policies included in the Historic Preservation Element that may apply to the West Campus are related to:

- Plan of the City of Washington
- Identification of Historic Properties
- Protection and Management of Historic Properties
- Design Review
- Capital’s Historic Image

Visitors and Commemoration Element: It is the goal of the Federal Government to “provide a positive and memorable experience for all visitors to the NCR in a way that showcases the institutions of American culture and democracy, supports planning goals, and enhances activities that are unique to visiting the nation’s capital” (NCPC, 2016). The policies of the Visitors and Commemoration Element are related to:

- Visitor Transportation Modes
- Visitor Amenities and Information Services

- Visitor Programs and Special Events
- Commemorative Works

District of Columbia Elements

Land Use: The Land Use Element establishes the “basic policies guiding the physical form of the city and provides direction on a range of development, conservation, and land use compatibility issues” (DCOP, 2006a). The goal of the Land Use Element is to “ensure the efficient use of land resources to meet long-term neighborhood, citywide, and regional needs; to help foster other District goals; to protect the health, safety, and welfare of District residents and businesses; to sustain, restore, or develop high quality neighborhoods in all parts of the city; and to effectively balance the competing demands for land to support the many activities that take place within the District boundaries” (DCOP, 2006a). The Land Use Element provides policies and actions for shaping the city, creating and maintaining successful neighborhoods, and balancing competing demands for land.

The Land Use Element includes city policies for use and development of Federal lands including:

- District/Federal Joint Planning
- Federal Sites and Adjacent Neighborhoods
- Recognition of Local Planning and Zoning Regulations
- Federal Workplaces and District Goals
- Neighborhood Impact of Federal Security Measures
- Reducing Exposure to Hazardous Materials

Transportation: The goal of this element is to “create a safe, sustainable, efficient multi-modal transportation system that meets the access and mobility needs of District residents, the regional workforce, and visitors; supports local and regional economic prosperity; and enhances the quality of life for District residents” (DCOP, 2006a).

Environmental Protection: It is the goal of the District to “protect, restore, and enhance the natural and man-made environment in the District of Columbia, taking steps to improve environmental quality, prevent and reduce pollution, and conserve the values and functions of the District’s natural resources and ecosystems” (DCOP, 2006a). This element also encourages the Federal Government to reduce noise from the operation of helicopters, especially over residential areas along the Potomac and Anacostia Rivers, during night-time and early morning hours (DCOP, 2006a).

Economic Development: The economic development planning policies of the District are designed to “strengthen the District’s economy by sustaining its core industries, attracting new and diverse industries, accommodating future job growth, fostering the success of small businesses, revitalizing neighborhood commercial centers, improving resident job skills, and helping a greater number of District residents find and keep jobs in the Washington regional economy” (DCOP, 2006a).

Urban Design: The goal of the Urban Design Element is to “enhance the beauty and livability of the city by protecting its historic design legacy, reinforcing the identity of its neighborhoods, harmoniously integrating new construction with existing buildings and the natural environment, and improving the vitality, appearance, and security of streets and public spaces” (DCOP, 2006a). This element includes strategies for respecting the natural topography and landforms of the city including:

- Respecting Natural Features in Development
- Protecting the Topographic “Bowl,” referring to the flat historic center of Washington surrounded by areas of higher elevation
- Ridgeline Protection
- View Protection
- Review of Zoning Designations

Preservation and Historic Features: The primary goal of this element is to “preserve and enhance the unique cultural heritage, beauty, and identity of the District of Columbia by respecting the historic physical form of the city and the enduring value of its historic structures and places, recognizing their importance to the citizens of the District and the nation, and sharing mutual responsibilities for their protection and stewardship” (DCOP, 2006a). The *Comprehensive Plan* includes measures specific to the West Campus including, “protecting views of and from the natural escarpment around central Washington by working with District and Federal land-holders and review agencies to accommodate reasonable demands for new development on major historic campuses like Saint Elizabeths, the Armed Forces Retirement Home, and McMillan Reservoir in a manner that harmonizes with the natural topography and preserves important vistas over the city” (DCOP, 2006a).

The Far Southeast/Southwest Area Element: The West Campus is within the Far Southeast/Southwest Planning Area. The Far Southeast/Southwest Planning Area encompasses the area east of I-295 and south of Good Hope Road SE/Naylor Road SE. The general policies of the Far Southeast/Southwest Area Element are designed to guide growth and neighborhood conservation, and to conserve and enhance community resources. This planning element includes specific policies for the redevelopment of the West Campus, specifically to “work collaboratively with the Federal Government on the reuse of the West Campus. Particular priority should be given to preserve historic properties—including not only the buildings, but the historic open spaces and massing of buildings on the site. To the greatest extent feasible, redevelopment of the West Campus should create new publicly accessible open space and should be coordinated with redevelopment” (DCOP, 2006a).

Other Plans

Additional plans and initiatives potentially affecting Master Plan Amendment 2 are provided in Table 3-10 and discussed in the following paragraphs.

Table 3-10 Summary of Plans and Initiatives Affecting the West Campus and Surrounding Areas

Plan/Initiative	Proponent	Completion Date	Purpose
St. Elizabeths East Redevelopment Framework Plan	DC Office of Planning (DCOP)	2008	Guide redevelopment of the East Campus
St. Elizabeths East Master Plan and Design Guidelines	DCOP	Ongoing	Further planning activities for the East Campus
DC innovation Strategy for Saint Elizabeths Final Report	DCOP/DC Office of the Deputy Mayor for Planning and Economic Development (DMPED)	2012	Strategies for development of the East Campus
CHASE Action Agenda	DCOP	2014	Guidance for development in the CHASE area to provide opportunities to businesses and residents of Ward 8
Anacostia Waterfront Initiative	Agreement between 20 Federal and District of Columbia agencies	Ongoing Activities	Waterfront development plan initiated by the Federal and the District of Columbia agencies for the redevelopment of land along the Anacostia River
Barry Farm/Park Chester/Wade Road Redevelopment Plan	DMPED	2006	Redevelopment Plan for the 37-acre Barry Farm/Park Chester/Wade Road neighborhood
Great Streets Initiative	DMPED, DDOT, and DCOP	Ongoing	Multiple-year, multiple-agency effort to transform under-invested corridors into thriving and inviting neighborhoods

Plan/Initiative	Proponent	Completion Date	Purpose
New Communities Initiative	DMPED	Ongoing	Comprehensive partnership designed to improve the quality of life for families and individuals living in distressed neighborhoods in the District of Columbia
Anacostia Transit Area Strategic Investment Plan	DCOP	2006	Guide investment in ways that revitalize the Anacostia neighborhood and address the needs and vision of residents and businesses
CapitalSpace	NCPC, NPS, DCOP, and District of Columbia Department of Parks and Recreation (DPR)	2010	Plan to improve parks in the District of Columbia

St. Elizabeths East Redevelopment Framework Plan. The *St. Elizabeths East Redevelopment Framework Plan* was revised in December 2008 to help guide redevelopment of the East Campus by clearly stating a vision, strategic direction, and the underlying principles needed to create new neighborhoods, new and improved infrastructure, better transportation and access, and historic preservation (DCOP, 2008). The revision to the *St. Elizabeths East Redevelopment Framework Plan* outlines several development principles that include the following:

- Capture the unique identity to create a sense of place
- Reinvigorate the campus as an important neighborhood center
- Preserve and celebrate heritage resources
- Embody the District of Columbia’s design and sustainability goals
- Create a strong public realm
- Improve community connectivity and open access to the campus
- Enhance multi-modal transportation networks
- Support wider economic development initiatives

St. Elizabeths East Master Plan and Design Guidelines. In 2012, the District of Columbia DCOP and DMPED developed the St. Elizabeths East Master Plan and Design Guidelines to provide guidance on development for the East Campus. The East Campus site was designated for a mixed-use development that would feature amenities that would serve the community.

Since the completion of the St. Elizabeths East Master Plan, the East Campus has begun several development projects. The first phase of development called for residential, mixed-use, office, retail, and entertainment. Phase 1 began in 2016 and saw the installation of necessary infrastructure and utilities. In 2016, construction began on an Entertainment and Sports Arena. The 118,000-square-foot, 4,200-seat facility was completed in 2018 (Events DC, 2019b). Additionally, a water tower was constructed in 2018 to service the area. Multi-family affordable housing and townhome units are anticipated to be completed in 2020, and a commercial office space is slated for 2021. Future use of the remaining parcels is currently in ongoing development (DMPED, 2019a).

Planned development on the East Campus includes (DMPED, 2017):

- 1.68 million gsf office space
- 168,000 gsf retail space
- 1,621 residential units (multi-family and townhouses)
- 352,000 gsf hospitality
- 310,000 gsf of civic/art/institutional
- 150-bed hospital with 230,000 gsf ambulatory services in the North Parcel (previously proposed for DHS use)
- Relocation of men's shelter (380-bed low-barrier shelter) in the North Parcel (previously proposed for DHS use)

DC Innovation Strategy for Saint Elizabeths Final Report. In 2012, DCOP, in collaboration with DMPED, released the *DC Innovation Strategy for Saint Elizabeths* that identifies the East Campus as an Innovation Hub. This hub is envisioned as a center for research, education, technology, and commercial properties. The report outlined priority strategies focused on an innovation marketplace, talent development, and community economic empowerment. The goal of implementing the Innovation Hub at St. Elizabeths East would be to catalyze economic growth and provide a space for research and innovation in the area (DCOP, 2012).

The CHASE Action Agenda. *The CHASE Action Agenda* was developed in 2014 as an initiative to ensure that development in the Congress Heights, Anacostia, and St. Elizabeths (CHASE) areas provides economic opportunities to the residents and businesses of Ward 8. *The CHASE Action Agenda* focuses on seven categories: jobs, housing, retail amenities, entrepreneurship and small businesses, arts and culture, preservation and redevelopment, and transportation. *The CHASE Action Agenda* provides an implementation blueprint of action steps for these categories. In addition,

The *CHASE Action Agenda* includes a pattern book to provide information on architectural styles in the area as well as guides on maintenance and repair for existing housing (DCOP, 2014).

Anacostia Waterfront Initiative (AWI). The *AWI* is a \$10 billion waterfront development plan initiated by the Federal Government and District of Columbia for the redevelopment of land along the Anacostia River. The *AWI* is consistent with the NCPC's *Comprehensive Plan*, which identifies opportunities for parks along the Anacostia River (NCPC, 2016).

The *AWI* is guided by five key elements: transportation, the environment, economic development, the community, and recreation. The *AWI* focuses on eight target areas, each of which has a specific plan. Three of these target areas are near the West Campus: South Capitol Street, Poplar Point, and the Anacostia Riverwalk and RiverParks (DCOP, 2003).

The South Capitol Street EIS was completed in 2011 and analyzed improvements to pedestrian and vehicular access along the South Capitol Street corridor. The South Capitol Street improvements project would be designed to transform the existing South Capitol Street into an urban gateway to the U.S. Capitol and the Monumental Core (DDOT, 2019a).

Poplar Point is approximately 0.2 miles north of the West Campus, on the east side of the Anacostia River. Poplar Point primarily falls under NPS jurisdiction and contains NPS and U.S. Park Police facilities. In 2008, NPS began the NEPA process to analyze the redevelopment of the 110-acre Poplar Point area and to transfer property to the District. A Draft EIS was completed in 2010; currently DCOP and DMPED are working with NPS to reinitiate the EIS process (DMPED, 2019b).

Another target area of the *AWI* is the Anacostia Riverwalk Trail, which will connect all the open spaces within the Anacostia River Parks system. The proposed trail would provide a convenient and safe means for park visitors, including pedestrians and bicyclists, to access Anacostia Park. The Anacostia Riverwalk Trail was designed to be a 28-mile multi-use trail along the east and west banks of the Anacostia River in the District of Columbia; as of 2019, 19.5 miles have been constructed and opened to the public (AWI, 2019). Several other segments of the Anacostia Riverwalk Trail in the vicinity of the West Campus are in the planning or design phase to include the South Capitol Street Trail Project and Shepherds Branch Trail. The South Capitol Street–Frederick Douglass Memorial Bridge Project river trail segment is currently under construction.

- The South Capitol Street Trail Project entered final the design in 2018 and will extend the Anacostia Riverwalk Trail system by 3.8 miles. The proposed trail would connect with the Frederick Douglass Memorial Bridge (AWI, 2017).

- The Shepherds Branch Trail is a proposed extension of the Anacostia Riverwalk Trail from the intersection of Firth Sterling Road SE and South Capitol Street SE to E Street SE. The 3-mile trail would be built on an inactive rail corridor and would connect to the South Capitol Street Trail (DDOT, 2018).
- The Frederick Douglass Memorial Bridge Project is a bridge replacement project coupled with a reconstruction of the Suitland Parkway/I-295 interchange. The project will also increase bicycle and pedestrian facilities. Construction began in 2017 and is expected to be completed in 2021. The Frederick Douglass Bridge replacement was a project element of the 2011 South Capitol EIS (DDOT, 2019b).

Barry Farm/Park Chester/Wade Road Redevelopment Plan. The District of Columbia is working to redevelop the areas occupied by the Barry Farm public housing complex, which consists of 432 units of low-income housing in the Barry Farm Dwellings, 222 units in the Park Chester apartment complex, and numerous condominium and apartment complexes along Wade Road SE (DMPED, 2006). Construction of replacement units in nearby neighborhoods for inhabitants of Barry Farm began in early 2010 (DMPED, 2019c). In 2014, the zoning commission approved the first stage of redevelopment. A new recreational center in Barry Farm was completed in 2015 (NCI, 2019). Phase 1 of the redevelopment, which includes the portion of Barry Farm northeast of Sumner Road SE, entered design and community outreach in 2018 (BFR, 2019). DMPED expects a new zoning application to be filed in 2019 to construct a total of 380 replacement units, 365 affordable units, and 355 market-rate units (WBJ, 2019).

Great Streets Initiative. The Great Streets Initiative is a multidisciplinary approach to corridor improvement composed of public realm investments, strategic land use plans, public safety strategies, and economic development assistance. The Great Streets Initiative is a partnership among multiple District of Columbia agencies including DDOT, DCOP, DMPED, DPR, the Neighborhood Service Coordinators (NSC), and others (Great Streets DC, 2019).

The Great Streets Framework Plan was created by DDOT as part of the Great Streets Initiative to strengthen business and other local services, integrate nature and create valuable open spaces, create walkable streets with multiple travel options, distinguish safe and vibrant places that reflect local character, and increase community ownership and stewardship. The Great Streets Initiative focuses on six target corridors in the District of Columbia (Great Streets, 2019).

The Martin Luther King Jr. Avenue SE/South Capitol Street SE corridor is a Great Streets Corridor in the vicinity of the West Campus (DDOT, 2007). Portions of this corridor are located northeast of Barry Farm and directly southeast of the West Campus (Great Streets, 2019).

New Communities Initiative. The New Communities Initiative is a District program designed to improve the quality of life for families and individuals living in distressed neighborhoods. The goal of the New Communities Initiative is to redevelop these neighborhoods into healthy mixed-income communities that provide economic opportunities, human service programs, and affordable housing. The initiative has four guiding principles: (1) a one-for-one replacement of existing housing units to prevent loss of subsidized units in the neighborhood; (2) an opportunity for current residents to return or stay in the neighborhood; (3) mixed-income housing to provide a range of housing for all incomes; and (4) the development of new housing before the demolition of the existing, distressed housing. Barry Farm, immediately north of the West Campus, is one of the four New Communities within the District (DMPED, 2019c).

Anacostia Transit Area Strategic Investment and Development Plan. The Anacostia neighborhood and its transit area are northwest of Barry Farm and the West Campus and are poised to have unmet demands for housing and retail. Approved in 2006, the *Anacostia Transit Area Strategic Investment and Development Plan* provides coordinated, strategic investment of more than \$150 million of public funding that has been committed to various projects in the Anacostia neighborhood and neighboring communities. The plan seeks to build new housing opportunities available at a range of income levels, restore the traditional retail main street and attract new national retail shops, and provide modest office developments to provide daytime activity and customers (DCOP, 2006b).

CapitalSpace. CapitalSpace is a partnership between the District of Columbia, NCPC, and NPS to address parks in the District of Columbia. The goal of the CapitalSpace plan is to provide a unified park system for the District of Columbia that is safe and accessible and that connects communities. To address this, the plan focuses on six “Big Ideas”: linking the Fort Circle Parks by implementing a greenway and making the parks recreational destinations (see Section 3.4.7, Community Facilities, for additional information on the Fort Circle); improving public schoolyards; enhancing natural areas; improving playfields; enhancing Center City parks; and transforming small parks into successful public spaces. This approach was used to focus on areas where significant improvements could be made to the city’s park or open space resources.

Study Area Land Use Planning and Zoning

The West Campus is in Ward 8 in the southeast section of DC. Land use on the West Campus is planned for Federal use; land and facilities onsite are occupied by the Federal Government. Land use to the north of the West Campus is medium density residential (Figure 3-13). To the west are Federal use lands associated with JBAB. There is a narrow strip of land adjacent to I-295 along the western boundary of the West Campus that is listed as commercial. The East Campus is listed as local use.

The area to the south of the West Campus is categorized as moderate density residential and parks, recreation, and open space. This park land is referred to as the Shepherd Parkway site, which is part of the Fort Circle Parks system and owned by the NPS (DCOP, 2006c).

Future land use, as outlined in the District Elements of the *Comprehensive Plan*, shows little change from the existing land use to the west and south of the West Campus (Figure 3-14). However, the future land uses on the East Campus area reflect ongoing and proposed development activities. Future land use within the East Campus is mixed-use and listed as medium density commercial/residential; low density commercial, moderate density commercial, local public facilities; and moderate density commercial, medium density residential. Additionally, north of the West Campus near the Anacostia River, future land use is depicted as mixed-use high density residential and institutional, and medium density residential (DC OCTO, 2019b).

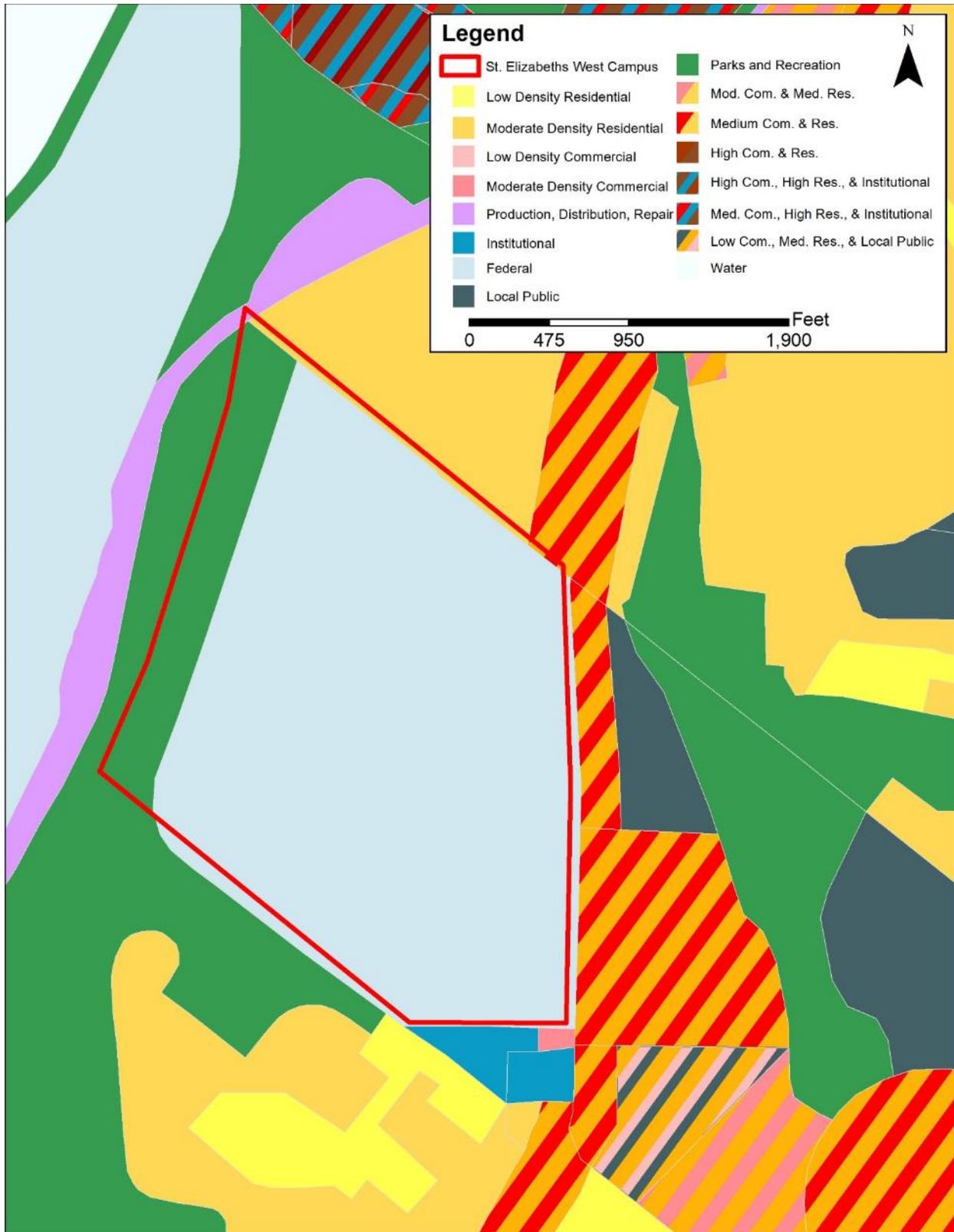
The West Campus is unzoned because it is a Federal property and not subject to local zoning regulations (Figure 3-15). Similarly, the land to the west of the West Campus is unzoned. To the north, Barry Farm is zoned as a Residential Apartment Zone (RA-1). South of the West Campus is unzoned, Federal land associated with Shepherd Parkway. In addition, there are areas zoned as RA-1 as well as Residential Zone for row dwellings (R-3) south of the West Campus. A Mixed-Use Zone (MU-4) is also south of the West Campus along Martin Luther King Jr. Avenue SE (DCOZ, 2016).

The East Campus is zoned with unique location zones (StE-1 through StE-19). These special zones were developed from the *Comprehensive Plan*, the *St. Elizabeths Redevelopment Framework Plan*, and the *St. Elizabeths East Master Plan and Design Guidelines*. These zones include residential, commercial, hospitality, civic, and educational uses (DCOZ, 2019).



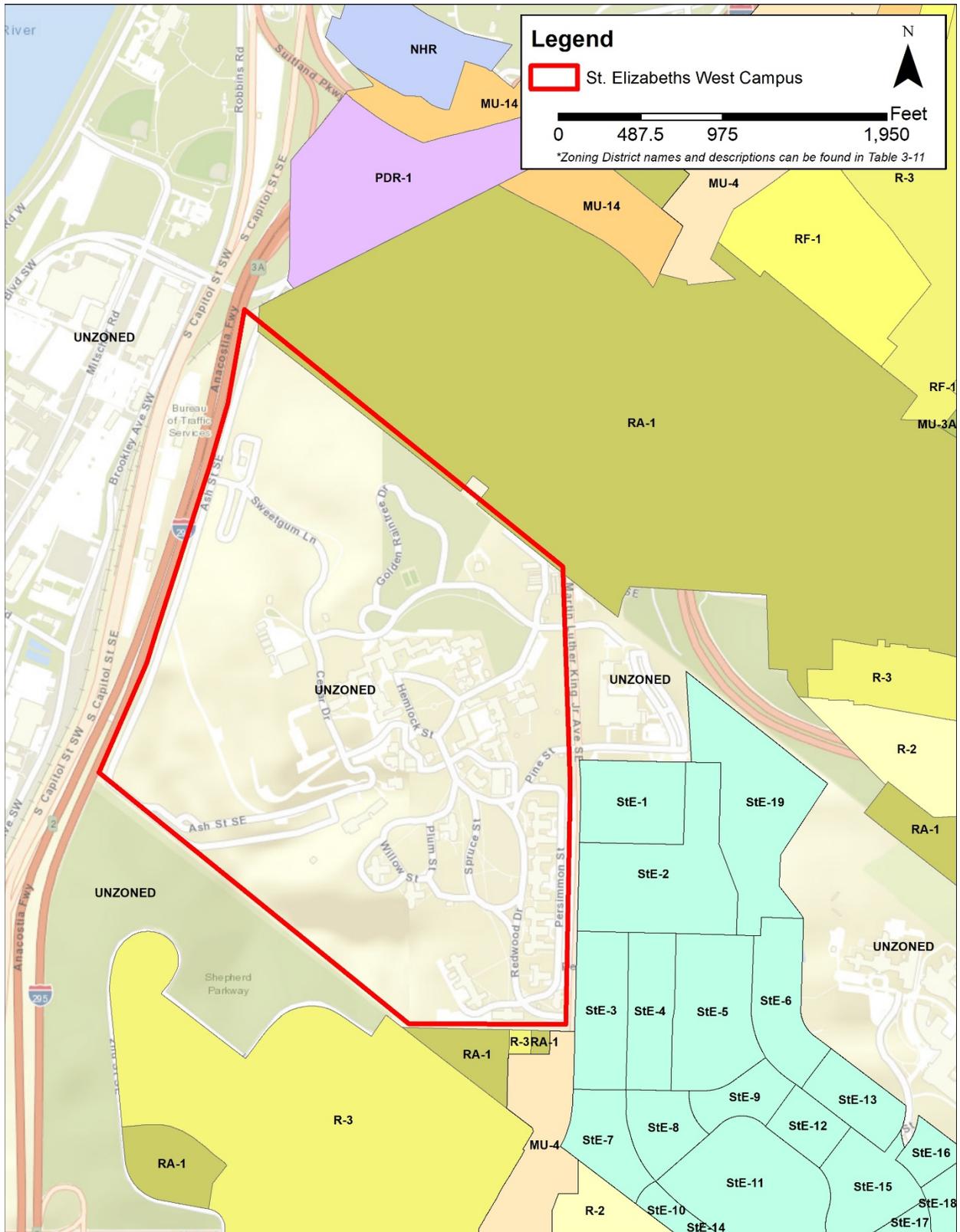
Source: DCOP, 2006c

Figure 3-13 Existing Land Use on the West Campus and Surrounding Areas



Source: DCOP, 2013

Figure 3-14 Proposed Future Land Use on the West Campus and Surrounding Areas



Source: DCOZ, 2016

Figure 3-15 Existing Zoning in the Areas Surrounding the West Campus

Table 3-11 provides a summary of the zoning categories in the surrounding areas.

Table 3-11 Summary of Zoning Categories in Surrounding Areas

Zoning District	Zoning District Type	Summary of Zoning Categories
RA-1	Residential Apartment	Permits low to moderate density development including detached dwellings, rowhouses, and low-rise apartments
RF-1	Residential Flat	Permits development of attached rowhouses on small lots
R-2	Residential	Provides areas predominantly developed with semi-detached houses on moderately sized lots that also contain some detached dwellings
R-3	Residential	Allows for attached rowhouses on small lots and row dwellings mingled with detached, semi-detached, and groupings of three or more row dwellings
MU-3A	Mixed-Use	Permits low density mixed-use development
MU-4	Mixed-Use	Permits moderate density mixed-use development
MU-14	Mixed-Use	Permits high density mixed-use development by the waterfront
NHR	Norther Howard Road	Special purpose zone to support a mixture of residential and commercial use along Howard Road SE
PDR-1	Production, Distribution, and Repair	Permits moderate density commercial and production, distribution, and repair activities requiring some heavy machinery
StE-1-19	East Campus	Special purpose zones to support the East Campus Master Plan. St Elizabeths zones are divided by building height, lot occupancy, and floor area ratio

Source: DCOZ, 2016; DCOZ, 2019

Planned development in the vicinity of the West Campus includes government projects, retail development, and mixed-use development (Table 3-12).

Table 3-12 Planned Development

Development	Location
St Elizabeths East Campus; Mixed-Use Development	Between Martin Luther King Jr. Avenue SE and Alabama Avenue SE
Barry Farm Redevelopment; Mixed-Use Development	Between Firth Sterling Avenue SE and Martin Luther King Jr. Avenue SE
Poplar Point	Between Anacostia River and Howard Road SE
Anacostia Metro Station Area Redevelopment	1101 Howard Road SE (source Anacostia Metro plan)
Anacostia Redevelopment - Great Streets Initiative	Martin Luther King Jr. Avenue SE/South Capitol Street SE/SW
Bethlehem Baptist Church Planned Unit Development (PUD)	2458 Martin Luther King Jr. Avenue SE
Anacostia Square	Good Hope Road SE and Martin Luther King Jr. Avenue SE

Development	Location
Curtis Properties	Between U Street and Chicago Street along Martin Luther King Jr. Avenue SE
Anacostia Park/Anacostia Riverwalk Trail/Twining Square Park	East and west banks of the Anacostia River
BRAC	JBAB
Fort Stanton Recreation Center	1812 Erie Street SE
Carver Theater (Renovations)	Anacostia neighborhood of Washington, DC
Matthew Memorial Terrace	East side of Martin Luther King Jr. Avenue SE, adjacent to Matthews Memorial Church
Sheridan Terrace	Bounded east of Suitland Parkway and south of Martin Luther King Jr. Avenue SE

Source: MWCOG, 2019

3.4.2 Population and Housing

Neighborhoods near the West Campus include Congress Heights, Barry Farm, and Anacostia. Congress Heights is a residential neighborhood south of the West Campus. The largest commercial district in Ward 8 is in Congress Heights along Martin Luther King Jr. and Malcolm X Avenues SE.

The West Campus is in Census Tract 104. Census Tracts abutting Census Tract 104 include 73.01, 73.04, 74.01, 74.04, 74.06, 98.03, 98.04, and 98.07 (Figure 3-16). The U.S. Census Bureau provides Census Tract level data during decennial censuses. However, yearly estimates for areas with a population of 65,000 or more are produced as part of the American Community Survey. Estimates from the 2017 American Community Survey are the most recent population and housing statistics data available for the area surrounding the West Campus.

Census Tract 73.01 is west of the West Campus and is composed entirely of Federal military installations. Therefore, the population and housing characteristics of this Census Tract are not accurate representations of Ward 8 and the areas surrounding the West Campus. Data for Census Tract 73.01 will be presented, but detailed discussion of the data will be omitted. To analyze the population in the vicinity of the West Campus, data was taken from the census tract containing the West Campus as well as the abutting census tracts, not including Census Tract 73.01.

In the census tracts surrounding the West Campus, the population is approximately 93 percent Black/African-American; the Black/African-American population in the District of Columbia is 47.7 percent. The population surrounding the West Campus is approximately 3.5 percent Hispanic/Latino; the District of Columbia is 10.7 percent Hispanic/Latino. Additionally, the population in the vicinity of the West Campus is 2.8 percent White, 0.03 percent American Indian, 0.2 percent Asian, 0.1 percent Native Hawaiian/Other Pacific Islander, 3 percent “Other Race,” and 1 percent “Two or More Races” (Table 3-13) (U.S. Census Bureau, 2019).

Children under the age of five make up 8.5 percent of the population in the vicinity of the West Campus (Table 3-14). This is slightly higher than the 6.5 percent of the population of the District that is under 5. Children aged 5 to 17 years old make up approximately 22 percent of the population in the vicinity of the West Campus. This is twice the percentage of the District, which is 11 percent. Approximately 8.9 percent of the population in the vicinity of the West Campus is over the age of 65, compared to 11 percent in the District as a whole (U.S. Census Bureau, 2019).

Housing units around the West Campus range from approximately 62 to 94 percent renter-occupied housing units. Census Tract 74.06 has the largest percentage of renter-occupied housing units, with 833 of the 883 (i.e., 94.3 percent) occupied housing units reported as renter-occupied (Table 3-15). Census Tract 98.07 has the smallest percentage of renter-occupied units at 827 of the 1,344 total (i.e., 61.5 percent) occupied housing units. The percentage of renter-occupied housing units around the West Campus is greater than the District of Columbia, which has 58.3 percent renter-occupied housing (U.S. Census Bureau, 2019).



Source: U.S. Census Bureau, 2019

Figure 3-16 Census Tracts at the West Campus and Surrounding Areas

Table 3-13 West Campus and Surrounding Area Population Demographics

	Census Tract 73.01 ^a	Census Tract 104 ^b	Census Tract 73.04	Census Tract 74.01	Census Tract 74.04	Census Tract 74.06	Census Tract 98.03	Census Tract 98.04	Census Tract 98.07	Total in the Vicinity of the West Campus ^c	DC
Population	4,606	4,625	3,592	2,262	4,307	3,254	3,081	2,826	3,369	27,316	672,391
White (percent)	2,922 (63.4)	363 (7.8)	164 (4.6)	49 (2.2)	37 (0.9)	2 (0.06)	0 (0.0)	42 (1.5)	118 (3.5)	775 (2.8)	273,471 (40.8)
Black/African-American (percent)	1,197 (26.0)	4,171 (90.2)	3,299 (91.8)	2,161 (95.5)	4,058 (94.2)	2,904 (89.2)	3,064 (99.4)	2,490 (88.1)	3,232 (95.9)	23,379 (92.9)	321,062 (47.7)
American Indian (percent)	6 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (0.3)	0 (0.0)	0 (0.0)	9 (0.03)	1,757 (0.2)
Asian (percent)	109 (2.4)	0 (0.0)	0 (0.0)	26 (1.1)	8 (0.2)	0 (0.0)	0 (0.0)	9 (0.3)	0 (0.0)	43 (0.2)	25,558 (3.8)
Native Hawaiian/Other Pacific Islander (percent)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	16 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	16 (0.1)	289 (0.04)
Other Races (percent)	89 (1.9)	20 (0.4)	101 (2.8)	26 (1.1)	204 (4.7)	292 (9.0)	0 (0.0)	187 (6.6)	0 (0.0)	830 (3.0)	30,961 (4.6)
Two or More Races (percent)	283 (6.1)	71 (1.5)	28 (0.8)	0 (0.0)	0 (0.0)	40 (1.3)	8 (0.3)	98 (3.5)	19 (0.6)	264 (1.0)	19,293 (2.9)
Hispanic/Latino ^d (percent)	709 (15.4)	167 (3.6)	122 (3.4)	48 (2.1)	117 (2.7)	292 (9.0)	0 (0.0)	216 (7.6)	3 (0.09)	965 (3.5)	71,829 (10.7)

Source: U.S. Census Bureau, 2019

- Notes: a. Census Tract 73.01 contains Federal military installations and is not included the calculations for the “Total” column as it does not reflect the makeup of the surrounding community
 b. Census Tract 104 includes the West Campus
 c. The West Campus vicinity is defined as its census tract and the abutting census tracts, excepting Census Tract 73.01
 d. Hispanic/Latino includes people of all races (i.e., White, Black/African-American, etc.)

Table 3-14 West Campus and Surrounding Area Age Demographics

	Census Tract 73.01 ^a	Census Tract 104 ^b	Census Tract 73.04	Census Tract 74.01	Census Tract 74.04	Census Tract 74.06	Census Tract 98.03	Census Tract 98.04	Census Tract 98.07	Average of Census Tracts in the Vicinity of the West Campus ^c	DC
Population, Age under 5 years (percent)	972 (21.1)	178 (3.8)	303 (8.4)	196 (8.7)	445 (10.3)	472 (14.5)	351 (11.4)	175 (6.2)	195 (5.8)	290 (8.5)	43,607 (6.5)
Population, Age 5 to 17 years (percent)	676 (14.7)	1,013 (21.9)	586 (16.3)	634 (28.0)	1,178 (27.4)	893 (27.4)	541 (17.6)	591 (20.9)	558 (16.6)	750 (21.9)	74,451 (11.0)
Population, Age 18 to 64 years (percent)	2,929 (63.6)	2,924 (63.2)	2,250 (62.6)	1,256 (55.5)	2,458 (57.1)	1,796 (55.2)	1,808 (58.7)	1,841 (65.1)	2,113 (62.7)	2,056 (60.2)	474,564 (70.6)
Population, Age 65 years and over (percent)	29 (0.6)	510 (11.0)	453 (12.6)	176 (7.8)	226 (5.2)	93 (2.9)	381 (12.4)	219 (7.7)	503 (14.9)	305 (9.4)	79,769 (11.9)
Median Age (years)	23.6	36.1	35.7	25.5	22.8	21.7	30.3	33.6	41.3	31.0	33.9

Source: U.S. Census Bureau, 2019

Notes: a. Census Tract 73.01 contains Federal military installations and is not included the calculations for the “Average” column as it does not reflect the makeup of the surrounding community.
 b. Census Tract 104 includes the West Campus
 c. The West Campus vicinity is defined as its census tract and the abutting census tracts, excepting Census Tract 73.01

Table 3-15 West Campus and Surrounding Area Income, Poverty, and Renter-Occupied Housing Units

	Census Tract 73.01 ^a	Census Tract 104 ^b	Census Tract 73.04	Census Tract 74.01	Census Tract 74.04	Census Tract 74.06	Census Tract 98.03	Census Tract 98.04	Census Tract 98.07	Average of Census Tracts in the Vicinity of the West Campus ^c	DC
Median Household Income	\$84,009	\$36,477	\$32,428	\$14,566	\$42,439	\$24,688	\$26,306	\$36,559	\$41,452	\$31,864	\$77,649
Poverty Status (percent)	4.4	27.5	33.9	64.6	30.5	48.5	41.7	33.9	31.6	39	17.4
Renter-occupied housing units (percent)	100	70.4	77.7	91.7	69.7	94.3	90.8	65.0	61.5	77.6	58.3

Source: U.S. Census Bureau, 2019

- Notes: a. Census Tract 73.01 contains Federal military installations and is not included the calculations for the “Average” column as it does not reflect the makeup of the surrounding community
 b. Census Tract 104 includes the West Campus
 c. The West Campus vicinity is defined as its census tract and the abutting census tracts, excepting Census Tract 73.01

3.4.3 Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, stipulates that "...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations...."

According to the U.S. Environmental Protection Agency (EPA), "Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (EPA, 2019a). Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, commercial, and governmental operations or policies. Meaningful involvement means: (1) people have an opportunity to participate in decisions about activities that could affect their environment or health; (2) the public's contribution can influence the regulatory agency's decision; (3) the public's concerns will be considered in the decision-making process; and (4) the decision-makers seek out and facilitate the involvement of those potentially affected. To have an impact under EO 12898, the impact must have a high and adverse effect on human health or environment, and the impact have a disproportionate impact on minority and low-income populations (EPA, 2019a).

GSA is a member of the Federal Interagency Working Group on Environmental Justice (EJ IWG). The EJ IWG connects Federal agencies in order to advance environmental justice. Each agency in the EJ IWG has developed a strategy to address environmental justice. GSA's most recent strategy identified four major goals: (1) to enhance communication and coordination to improve the health, quality of life, and economic opportunities in overburdened communities; (2) to enhance multi-agency support of holistic, community-based solutions to provide assistance to address environmental justice issues; (3) to advance interagency strategies to identify and address environmental justice concerns in agency programs, policies, and activities; and (4) to develop partnerships with academic institutions to assist in providing long-term technical assistance to overburdened communities (GSA, 2016).

Minority and low-income populations in the area surrounding the West Campus were identified by using U.S. Census Bureau Tract Level data. The area around the West Campus contains predominantly minority populations except for Census Tract 73.01 (Table 3-13). Census Tract 73.01 contains numerous Federal military installations and, therefore, is not representative of Ward 8, and is not included in the analysis of minority and low-income populations.

As stated previously, the Black/African-American population in the area surrounding the West Campus averages around 93 percent of the total population, which is higher than the general Black/African-American population in the District of Columbia. The Hispanic/Latino population in the area surrounding the West Campus represents 3.5 percent of the total population, compared to nearly 11 percent in the District of Columbia (Table 3-13) (U.S. Census Bureau, 2019).

The median household income for the census tracts identified around the West Campus averages \$31,864, which is less than half of DC's median household income of \$77,649. The lowest median income around the West Campus is found in Census Tract 74.01, with a median income of \$14,566 (Table 3-15) (U.S. Census Bureau, 2019). Poverty levels within the community surrounding the West Campus follow a trend similar to median household income. The surrounding Census Tracts have a higher poverty rate, averaging approximately 39 percent, compared to the District of Columbia poverty rate of 17.4 percent. Census Tract 74.01 has the highest poverty rate at 64.6 percent (Table 3-15) (U.S. Census Bureau, 2019).

Approximately 8.5 percent of the population in the Census tracts surrounding the West Campus is under the age of 5, 21.9 percent is age 5 to 17, 60.2 percent is age 18 to 64, and 9.4 percent over the age of 65 (Table 3-14) (U.S. Census Bureau, 2019).

The EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN) was used to obtain information on demographic and environmental information for the area with regards to environmental justice communities. EJSCREEN compares a community's potential for exposure or risk to that of the state and the nation. According to EJSCREEN, the area surrounding the West Campus is in a higher percentile for several environmental indices compared to the District and national averages. The area surrounding the West Campus is in at least the 90th percentile for particulate matter (PM_{2.5}), ozone (O₃), diesel particulate matter, air toxics cancer risk, respiratory hazard index, lead-based paint (LBP), superfund proximity, hazardous waste proximity, and wastewater discharge (EPA, 2018).

3.4.4 Economy, Employment, and Income

The predominant industries in the District of Columbia are professional, scientific, management, administrative, and waste management services which account for 23.4 percent of the employed civilian workforce; and educational, health, and social services which account for 18.9 percent of the employed civilian workforce (U.S. Census Bureau, 2019). Education, health, and social services is the largest employment sector in the Census Tracts that surround the West Campus accounting for 21.6 percent of the employed civilian workforce. Arts, entertainment, recreation, accommodation, and food services industries makes up the second largest sector accounting for 15.5 percent of the civilian workforce in the vicinity of the West Campus (Table 3-16) (U.S. Census Bureau, 2019).

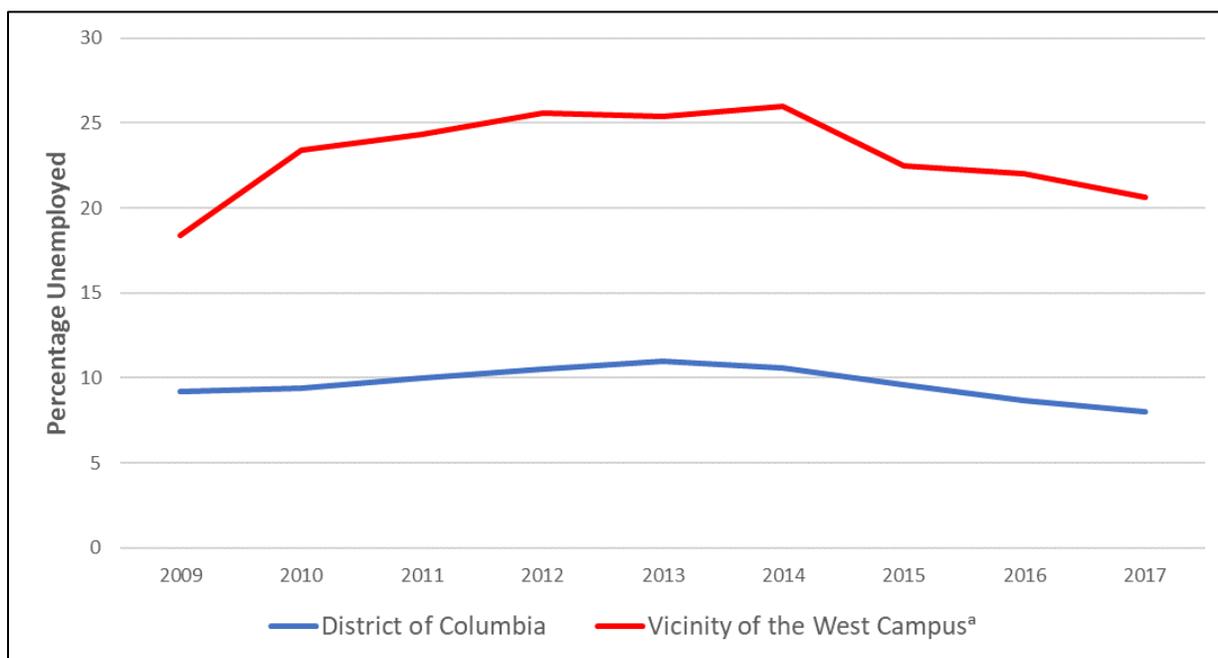
Table 3-16 Employment by Industry in DC and Census Tracts Including and Near the West Campus (by Percent)

Industry	Census Tract 73.01 ^a	Census Tract 104 ^b	Census Tract 73.04	Census Tract 74.01	Census Tract 74.04	Census Tract 74.06	Census Tract 98.03	Census Tract 98.04	Census Tract 98.07	Average of Census Tracts ^c	DC
Employed Persons in Armed Forces ^d	45.1	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.2	0.6
Agriculture, forestry, fishing & hunting, and mining	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Construction	0.0	2.0	0.0	2.3	2.6	1.8	7.5	4.3	0.0	2.6	2.6
Manufacturing	0.0	3.9	1.0	0.0	0.0	0.0	2.6	1.3	0.0	1.1	1.3
Wholesale trade	0.0	1.3	1.5	0.0	0.0	1.1	0.0	1.2	0.0	0.6	0.5
Retail trade	6.6	8.3	4.5	14.6	17.8	16.5	7.2	14.8	4.1	11.0	4.8
Transportation & warehousing, and utilities	0.0	12.6	7.8	3.7	3.7	14.1	6.5	7.0	7.3	7.8	3.0
Information	2.0	4.2	0.0	1.0	1.6	1.9	0.0	2.4	4.1	1.9	3.6
Finance, insurance, real estate, and rental and leasing	5.8	7.6	4.5	9.5	5.2	0.0	1.0	6.3	1.0	4.4	6.3
Professional, scientific, management, administrative, and waste management services	8.0	10.9	15.8	9.1	11.1	14.4	17.3	16.2	17.2	14.0	23.4
Educational, health, and social services	24.7	23.8	18.8	26.2	19.3	11.7	28.0	17.7	27.1	21.6	18.9
Arts, entertainment, recreation, accommodation, and food services	0.0	9.5	22.8	17.5	20.2	14.8	8.8	13.2	17.0	15.5	9.8
Other services (except public administration)	2.8	2.3	9.4	4.5	7.5	6.1	10.8	1.1	5.0	5.8	9.2
Public administration	50.1	13.6	13.9	11.6	11.0	17.6	10.3	14.5	17.2	13.7	16.5

Source: U.S. Census Bureau, 2019

- Notes: a. Census Tract 73.01 contains Federal military installations and is not included the calculations for the “Average” column as it does not reflect the makeup of the surrounding community.
 b. Census Tract 104 encompasses the West Campus.
 c. Average of Census Tracts in the vicinity of the West Campus. The West Campus vicinity is defined as its census tract and the abutting census tracts, excepting Census Tract 73.01.
 d. Average of total labor force as opposed to civilian labor force.

Unemployment data estimates for Census Tracts surrounding the West Campus and for the District of Columbia were obtained from the American Community Survey. Figure 3-17 displays the estimated annual percentage of the workforce unemployed from 2009 to 2017. Unemployment rates in the District of Columbia have remained relatively constant since 2009, reaching a high of 11 percent in 2013 (U.S. Census Bureau, 2019). From 2009 to 2017, the average unemployment rates in the Census Tracts in the West Campus area were generally at least twice the rates in the District of Columbia. The unemployment rate in the vicinity of the West Campus^a area reached a high of 26 percent in 2014 (U.S. Census Bureau, 2019).



Source: U.S. Census Bureau, 2019

Note: a. The West Campus vicinity is defined as its census tract and the abutting census tracts, excepting Census Tract 73.01; Census Tract 73.01 contains Federal military installations and is not included in this data

Figure 3-17 Unemployment Trends in the District of Columbia and the Vicinity of the West Campus

3.4.5 Taxes and Revenue

Within the NCR, the District of Columbia collects real property taxes, personal property taxes, corporate franchise and unincorporated franchise taxes, sales and use taxes, and income taxes.

Real Property Taxes

Federal properties are not subject to real property taxes; however, owners of privately held properties in the District of Columbia leased for occupancy by Federal agencies are subject to real property taxes. The real property taxes range from \$1.65 to \$1.89 per \$100 of assessed value. Assessed value is 100 percent of market value, based on the most recent estimate by the District of Columbia Office of Tax and Revenue (DC OTR, 2019).

Personal Property Taxes & Corporate Franchise and Unincorporated Franchise Taxes

Federal agencies are exempt from personal property and franchise taxes.

Sales and Use Taxes

The District of Columbia imposes sales and use taxes on the purchase or consumption of tangible personal property or services. Sales and use taxes are collected using the following rate structure:

- General rate for tangible personal property and selected services (6 percent)
- Tickets to legitimate theaters and entertainment venues (6 percent)
- Restaurant meals, liquor for consumption on the premises, and rental vehicles (10 percent)
- Alcohol for off-premises consumption (10.25 percent)
- Rental or leasing of rental vehicles and utility trailers (10.25 percent)
- Tickets to baseball games or related events at Nationals Park and tangible personal property sold at Nationals Park (10.25 percent)
- Tickets to events and event-related tangible personal property sold at Capital One Arena (10.25 percent)
- Hotel accommodations (14.95 percent)
- Parking in commercial lots (18 percent)

Sales and use tax revenues outside the District of Columbia would not be affected by the redevelopment of the West Campus (DC OCFO, 2019).

Individual Income Taxes

The District of Columbia levies income taxes on all individuals who are domiciled within the District, or who maintain a residence for a total of 183 or more days per year. For Tax Year 2019, the District of Columbia taxed individual income on the following tiered schedule (DC OTR, 2019):

- First \$10,000 = 4.0 percent
- \$10,000–\$40,000 = \$400 + 6.0 percent of excess above \$10,000
- \$40,000–\$60,000 = \$2,200 + 6.5 percent of excess above \$40,000
- \$60,000–\$350,000 = \$3,500 + 8.5 percent of excess over \$60,000
- \$350,000–\$1,000,000 = \$28,150 + 8.75 percent of excess over \$350,000
- Over \$1,000,000 = \$85,025 + 8.95 percent of excess over \$1,000,000

3.4.6 Community Services

The West Campus is surrounded by numerous communities that offer a variety of services including public transportation, emergency response services, fire and rescue services, law enforcement services, and hospital and medical services.

Public Transportation

Public transportation surrounding the West Campus is provided by the Washington Metropolitan Area Transit Authority (WMATA) by means of Metrobus and Metrorail. Two Metrobus routes, A4 and W5, have a stop on the West Campus access road along the west perimeter of the campus. In addition, numerous bus routes operating on Martin Luther King Jr. Avenue SE and South Capitol Street SE are along the West Campus. These include Metrobus routes A2, A4, A6, A7, A8, A9, W2, W3, W4, and W5 (Table 3-17) (WMATA, 2019a).

The nearest Metrorail access is Anacostia Metro Station, which connects to the Metrobus routes previously mentioned. Anacostia Metro Station is near the intersection of Howard Road SE and Firth Sterling Avenue SE, approximately 0.4 miles from the West Campus. In addition, the Congress Heights Metro Station is approximately 0.5 miles southeast of the West Campus on Alabama Avenue SE. Metrobus routes W2, W3, and W4 stop at the Congress Heights Metro Station (WMATA, 2019b).

In March 2009, DDOT began constructing the Anacostia Streetcar Project, which will provide streetcar access from South Capitol Street SE to Pennsylvania Avenue SE. The initial segment of the streetcar network was planned to operate from the Anacostia Metrorail Station to JBAB

(DC Streetcar, 2019). However, construction was halted in 2010 with only 0.8 miles of track completed. Since that time, a Testing and Commissioning Site was constructed in 2013 along South Capitol Street that will serve as a critical piece of infrastructure for streetcar service. A Finding of No Significant Impact (FONSI) was completed in 2014 for an extension to the Anacostia Streetcar from the terminus of the initial segment across Howard Road SE into CSX right-of-way as a two-way line to Good Hope Road SE (Laris, 2015).

Table 3-17 Metrobus Origin Destination Summary

Bus Number	Origin	Destination
Anacostia—Congress Heights Line (A2/A6/A7/A8)		
A2	Anacostia Metro Station	Southern Avenue Metro Station
A6	Anacostia Metro Station	Livingston
A7	Anacostia Metro Station	Livingston
A8	Anacostia Metro Station	Livingston
Anacostia—Fort Drum Line (A4/W5)		
A4	St. Elizabeths Gate 4	DC Village
W5	St. Elizabeths Gate 4	DC Village
Martin Luther King Jr. Avenue SE MetroExtra (A9)		
A9	Livingston	McPherson Square Metro Station
United Medical Center Line (W2/W3)		
W2	Anacostia Metro Station	Washington Overlook
W3	United Medical Center	Anacostia Metro Station
Deanwood—Alabama Avenue Line (W4)		
W4	Deanwood Station	Anacostia Station

Source: WMATA, 2019b

Emergency Services

The Unified Communications Center (UCC) is located at 2720 Martin Luther King Jr. Avenue SE, across from the West Campus. The UCC is an integrated call center and public safety/emergency response facility that consolidates key public safety communications functions of multiple District of Columbia agencies including Metropolitan Police, Fire and Emergency Medical Services (EMS), and Emergency Management. The UCC houses the District of Columbia’s Emergency Command Center, District of Columbia’s Citywide Call Center for constituent service requests, the District of Columbia Network Operations Center, the Regional Incident Command and Control Center, and the District of Columbia Homeland Security and Emergency Management Agency (HSEMA) (2019).

Fire and Rescue Services

The District of Columbia Fire and Emergency Medical Services Department provides fire and rescue services for the West Campus. The closest station, which houses Engine Company 25 and Medic Unit-25, is on Martin Luther King Jr. Avenue SE, approximately 0.5 miles from the West Campus (DC OCTO, 2019a).

Law Enforcement Services

The West Campus is within DC’s Seventh Police District. The nearest police station to the West Campus is at 2455 Alabama Avenue SE, about 1.4 miles from the study area. The Seventh Police District contains eight Police Service Areas (PSA). The West Campus is within PSA 703 (DC OCTO, 2019c).

The rate of reported crime in the Seventh Police District has been trending downwards, from 4,396 crimes in 2008 to 2,641 crimes in 2018. Detailed crime statistics for 2008 and 2018 for the District of Columbia, District 7, and PSA 703 are provided in Table 3-18 (MPD, 2019a; MPD, 2019b).

Table 3-18 Crime Statistics for 2008 and 2018 for DC, the Seventh Police District, and PSA 703

Crime	DC		District 7		PSA 703	
	2008	2018	2008	2018	2008	2018
Homicide	181	160	60	57	N/A	21
Sex Abuse	404	273	99	48	N/A	17
Robbery	4,447	2,034	653	278	N/A	72
Assault w/ Dangerous Weapon	3,195	1,674	685	367	N/A	112
Burglary	3,958	1,422	602	210	N/A	43
Larceny/Theft	16,641	25,915	1,199	1,415	N/A	358
Stolen Auto	6,050	2,407	985	264	N/A	89
Arson	51	5	6	2	N/A	1
Total	34,927	33,890	4,289	2,641	N/A	713

Source: MPD, 2019; MPD, 2019b

Hospital and Medical Services

Hospital service in the Anacostia area is provided by the United Medical Center (formerly Greater Southeast Community Hospital), which is at 1310 Southern Avenue SE, approximately 1 mile from the West Campus. The United Medical Center is a full-service hospital with a 184-bed capacity in an urban setting. The hospital has a 50-year history of serving residents of Wards 6, 7, and 8, east of the Anacostia River (UMC, 2019; HRSA, 2019).

3.4.7 Community Facilities

The communities that surround the West Campus offer numerous facilities consisting of libraries, education, and childcare facilities; parks and recreation facilities; and religious facilities.

Libraries

There are three libraries near the West Campus: the Bellevue (William O. Lockridge) Neighborhood Library, located 1.3 miles southwest of the West Campus; Parklands Turner Neighborhood Library, located 0.8 miles southeast of the West Campus; and Anacostia Neighborhood Library, located 1.2 miles northeast of the West Campus. All three libraries are branch libraries of the District of Columbia Public Library System and have either been renovated or relocated to new space within the past decade (DCPL, 2019a; DCPL 2019b; DCPL, 2019c).

Education and Childcare Facilities

Public Schools

There are 11 public schools, 21 charter schools, and 1 independent school within approximately 1 mile of the West Campus. The two public elementary schools closest to the West Campus are Martin Luther King and Savoy Elementary schools, which are 0.4 miles from the West Campus (DC OCTO, 2019a).

There are two public middle schools near the West Campus, including Johnson Junior High School, located 0.7 miles to the east, and Hart Middle School, located 0.8 miles to the south. Five high schools are located near the West Campus. Two schools are public: Ballou Senior High School and Ballou STAY Opportunity Academy, located 0.6 miles south of the West Campus. Three of the schools are charter schools: KIPP DC Somerset College Preparatory, located 0.4 miles east; Thurgood Marshall Academy, located 0.4 miles northeast; and Friendship Technology Preparatory Middle & High School, which abuts the West Campus to the south (DC OCTO, 2019a).

Childcare Facilities

There are 17 licensed childcare facilities within an approximately 0.5-mile radius of the West Campus (Table 3-19) (DC OCTO, 2019d; DC OSSE, 2017).

Table 3-19 Childcare Facilities

Facility	Address
DHS Child Development Center	2701 Martin Luther King Jr. Avenue SE
Mary Ann Ross (home provider)	250 Newcomb Street SE
Friendship Public Charter Schools @ Milwaukee	645 Milwaukee Place SE
Love and Care Education Center, Inc.	554 Malcolm X Avenue SE
Dawn to Dusk Child Development Center	657 Lebaum Street SE
Dawn to Dusk Child Development Center II	2907 7 th Street SE
Matthews Memorial Baptist CDC	2616 Martin Luther King Jr. Avenue SE
Elvera Patrick (home provider)	3304 Brothers Place SE
KinderCare Education Champions LCC @ Democracy Prep.	3100 Martin Luther King Jr. Avenue SE
Rehoboth Baptist Church Day Care	621 Alabama Avenue SE
Kuumba Learning Center	3328 Martin Luther King Jr. Avenue SE
Tucker’s Day Care Center I	3215 11 th Place SE
Tucker’s Day Care Center II	3219 9 th Place SE
Springboard Education in America @ Douglass Rd	2600 Douglass Road SE
Emergent Preparatory Academy	2801 Stanton Road SE
DC Citywide Welfare Rights Org	2458 Martin Luther King Jr. Avenue SE

Parks and Recreational Facilities

Parks and Open Space

Open space and parkland owned by the Federal Government and the District of Columbia are in the area around the West Campus. To the north, the Anacostia River winds past a string of public parks and open space collectively known as Anacostia Park. Anacostia Park is part of the NPS System–National Capital Parks–East. Anacostia Park covers more than 1,200 acres on both sides of the river and is one of the city’s largest and most important recreation areas. Anacostia Park includes picnic grounds, playgrounds, ball fields, basketball courts, tennis courts, and Langston Golf Course and driving range. The park’s pavilion has more than 3,000 square feet of roller-skating space. There are three concession-owned boating marinas, four boat clubs, and a public boat ramp. Open space within the park includes forested areas, the Kenilworth Marsh, Kenilworth Aquatic Gardens, and Poplar Point (NPS, 2019a).

In December 2006, Congress approved the transfer of Poplar Point, a 110-acre open space, to the District of Columbia. Poplar Point is approximately 0.2 miles north of the West Campus. In 2008, the District of Columbia started the planning phases for the redevelopment of Poplar Point, which will include parks and recreation uses.

A Draft EIS was completed in 2010; the District of Columbia is currently continuing to progress the EIS and other planning initiatives (NPS, 2010; DMPED, 2019b).

The Anacostia Riverwalk Trail is part of the *AWI* that will connect all the open spaces that constitute the Anacostia River Parks system. Currently, 19.5 of the proposed 28 miles of trail have been constructed (*AWI*, 2019) including 3.5 miles of paved trail within Anacostia Park (NPS, 2019c).

Another park within the NPS, and in the vicinity of the redevelopment of the West Campus, is known as the Civil War Defenses of Washington, also called the Fort Circle Parks. At the start of the Civil War in 1861, a series of forts, batteries, and rifle trenches were built around Washington to defend against a Confederate invasion. After the war, most of the forts and batteries were dismantled, and the land was returned to its owners. However, the Federal Government purchased and developed some of the land as parkland. National Capital Parks–East manages several elements of the Fort Circle Parks including nearby Fort Stanton and Fort Dupont (NPS, 2019d).

Fort Stanton, once a Civil War-era military outpost, is on Erie Street SE near Morris Road SE, approximately 1 mile northeast of the West Campus. The site is identified by a historical marker. Fort Stanton is maintained by the NPS and includes Washington Overlook, a wooded area with views of the city. The recreational facility includes two baseball fields, a football field, a basketball court, a toddler playground, and a computer room (NPS, 2019d; DC DPR, 2019a).

Fort Dupont Park is at Randle Circle SE, and is accessed via Massachusetts Avenue SE, located approximately 3 miles northeast of the West Campus. It is part of the Fort Circle Parks. Fort Dupont is a heavily wooded 376-acre park that includes trails, tennis and basketball courts, softball fields, and community gardens. The community maintains an ice rink at Fort Dupont Park that was originally constructed for the Washington Capitals hockey team (DC DPR, 2019b). The NPS staffs a Community Nature Center and regularly hosts theater productions and concerts.

The Frederick Douglass National Historic Site is 1.1 miles from the West Campus at 1411 W Street SE. The site includes the preserved Gothic Revival-style home of Frederick Douglass, an eminent African American abolitionist, orator, and statesman, who lived during the Civil War era and spent his final 17 years at Cedar Hill. The site provides exhibits at the visitor center and guided tours of Douglass' house (NPS, 2019e).

Recreation and Community Facilities

The state-of-the-art Southeast Tennis and Learning Center, located at 701 Mississippi Avenue SE, is less than 1 mile south of the West Campus. The 48,000 square foot facility features six indoor hard courts, a fitness room, a library, seven outdoor-lighted tennis courts, multi-purpose rooms, computer lab, and a kitchen (DC DPR, 2019c).

The Town Hall Education, Arts, and Recreation Campus (THEARC), located 1.2 miles southeast of the West Campus at 1901 Mississippi Avenue SE, consists of 110,000-square-foot campus constructed in 2005; a 92,000-square-foot building was added to the campus in 2018. THEARC features a community theater, black box theater, urban farm, gymnasium, libraries, computer labs, classroom, dance and art studios, playgrounds, and an art gallery. There are 14 non-profit organizations housed at THEARC (THEARC, 2019).

The Anacostia Community Museum, located at 1901 Fort Place SE, approximately 1 mile from the West Campus, promotes diverse people and perspectives coming together to learn from, and uplift, one another. For over 50 years, the Anacostia Community Museum has developed museum collections, documentation projects, exhibits, and programs (Smithsonian, 2019).

The following neighborhood recreation/community centers are within 0.5 miles of the West Campus:

- Barry Farm Recreation Center, at 1230 Sumner Road SE, includes a lighted athletic field with a baseball diamond, picnic area, two playground areas, a multi-purpose room, a kitchenette, and a computer room (DC DPR, 2019d).
- Congress Heights Recreation Center, at 100 Randle Place SE, includes two lighted tennis courts, a lighted basketball court, a Little League baseball field, a picnic area, a toddler playground, and a multi-purpose room (DC DPR, 2019e).
- Fort Stanton Recreation Center, at 1812 Erie Street SE, includes a computer lab, fitness center, gymnasium, gardens, basketball courts, and a baseball field (DC DPR, 2019a).
- Douglass Community Center, at 1898 Stanton Terrace SE, includes an outdoor swimming pool, a lighted athletic field and tennis court, three playgrounds, a multi-purpose room with kitchen, and a computer room (DC DPR, 2019e).
- United Planning Organization (UPO) Ralph Waldo “Petey” Green Community Service Center, at 2907 Martin Luther King Jr. Avenue SE, provides services to assist residents in reading self-sufficiency (UPO, 2019).

Religious Facilities

Religious facilities near the West Campus are provided in Table 3-20.

Table 3-20 Religious Facilities within 0.5 Miles of the West Campus

Facility Name	Location
Masjid Ush-Shura	3109 Martin Luther King Jr. Avenue SE
Greater Fellowship Full Gospel Baptist	814 Alabama Avenue SE
United House of Prayer – Anacostia	1123 Howard Road SE
St. John Christian Methodist	2801 Stanton Road SE
Community of Hope	905 Alabama Avenue SE
Brighter Day Ministries – Congress Heights Campus	421 Alabama Avenue SE
Morning Star Baptist	3204 Brothers Place SE
Church of God of SE Washington	2512 Sheridan Road SE
Matthews Memorial Baptist	2632 Martin Luther King Jr. Avenue SE
Campbell AME	2562 Martin Luther King Jr. Avenue SE
Temple Missionary Baptist	3105 Martin Luther King Jr. Avenue SE
Rehoboth Baptist	621 Alabama Avenue SE
Holy Temple Church	2635 Martin Luther King Jr. Avenue SE
Bethuel Temple Church of Christ	2406 Martin Luther King Jr. Avenue SE
Revival Temple	2431 Shannon Place SE
Bethlehem Baptist	2458 Martin Luther King Jr. Avenue SE
Macedonia Baptist	2625 Stanton Road SE
St. John Christian Methodist Episcopal Church Outreach Center	2815 Stanton Road SE
Jerusalem Church of God in Christ	3128 Martin Luther King Jr. Avenue SE

Source: DC OCTO, 2019a

3.5 Air Quality

Existing air quality in the vicinity of the West Campus was assessed in accordance with guidelines set forth by 23 CFR 771, 49 CFR 622, the *Clean Air Act* (CAA), and NEPA. Specifically presented in this section are the applicable National Ambient Air Quality Standards (NAAQS), a summary of the representative average 2015, 2016, and 2017 ambient air quality monitoring data collected in the District of Columbia, and discussions of stationary source permitting requirements, mobile source air toxics (MSAT), and greenhouse gases (GHG) and associated regulations and commitments. The information in this section has been taken directly from the Air Quality Technical Report provided as Appendix B (Jacobs, 2019a).

3.5.1 Clean Air Act and National Ambient Air Quality Standards

Air quality is regulated at the Federal level through the CAA. The EPA adopted the CAA in 1970 and its amendments in 1977 and 1990. Pursuant to the CAA, EPA has established nation-air quality standards to protect public health and welfare. These standards, known as NAAQS (40 CFR 50), represent the maximum allowable concentrations of selected pollutants in ambient air. NAAQS were developed for six criteria pollutants (Table 3-21): ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM₁₀) and particulate matter less than 2.5 microns in aerodynamic diameter (PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). NAAQS include Primary Standards that protect public health, including protecting the health of “sensitive” populations such as asthmatics, children, and the elderly, and the Secondary Standards that protect public welfare including protection against decreased visibility and damage to animals, crops, vegetation, and buildings (EPA, 2019c).

The CAA requires EPA to classify regions with respect to each criteria pollutant, depending on whether the area’s monitored air quality meets the national standards. A region that is meeting the air quality standard for a given pollutant is designated as being in “attainment” for that pollutant. If the region does not meet the air quality standard, it is designated as being in “nonattainment” for that pollutant. Ozone nonattainment areas are categorized based on the severity of pollution: marginal, moderate, serious, severe, or extreme. An area that was designated as nonattainment and has been re-designated to attainment and has a Federal-approved maintenance plan is in “maintenance” for that pollutant. Areas may be designated as attainment for some standards and nonattainment or maintenance for others (40 CFR 93.125).

Table 3-21 National Ambient Air Quality Standards

Pollutant	Averaging Time	Primary Standards	Secondary Standards	Standard Form
Ozone	8 hours	0.070 ppm	0.070 ppm ^a	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
PM ₁₀	24 hours	150 µg/m ³	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
PM _{2.5}	Annual arithmetic mean 24 hours	12 µg/m ³ 35 µg/m ³	15 µg/m ³ 35 µg/m ³	Annual mean, averaged over 3 years 98 th percentile, averaged over 3 years
CO	8 hours 1 hour	9 ppm 35 ppm	— —	Not to be exceeded more than once per year
NO ₂	Annual arithmetic mean 1 hour	0.053 ppm 100 ppb	0.053 ppm —	Annual mean 98 th percentile of 1-hour daily maximum concentrations, averaged over 3 years

Pollutant	Averaging Time	Primary Standards	Secondary Standards	Standard Form
SO ₂	3 hours 1 hour	— 0.075 ppm ^b	0.5 ppm —	Not to be exceeded more than once per year 99 th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Pb	Calendar quarter Rolling 3-month average	1.5 µg/m ³ (certain areas) 0.15 µg/m ³	1.5 µg/m ^{3 c} —	Not to be exceeded

Source: EPA, 2019c

- Notes:
- a. Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) ozone standards also remain in effect in some areas.
 - b. The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will remain in effect in certain areas: a) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and b) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or does not meet the requirements of a State Implementation Plan (SIP) call under the previous SO₂ standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its SIP to demonstrate attainment of the required NAAQS.
 - c. In areas designated nonattainment for the lead standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m³ as a calendar quarter average) also remain in effect.
- µg/m³ = micrograms per cubic meter
ppm = parts per million (by volume)
ppb = parts per billion (by volume)

3.5.2 Background Levels of Criteria Pollutants

Air pollution in the District is primarily due to emissions from vehicles and air pollution transported from other states (DOEE, 2014). The District is currently designated as nonattainment for the 1997, 2008, and 2015 8-hour ozone standards, and is in attainment or unclassified for all other criteria pollutants (EPA, 2019d).

Based on EPA conformity regulations, because the project is in a nonattainment area for ozone NAAQS, it is subject to general conformity requirements. The EPA Final Conformity Rule implements Section 176(c) of the CAA, as amended in 42 U.S.C. 7506(c). Under the conformity provisions of the CAA, no Federal agency can approve or undertake a Federal action or project unless it has been demonstrated to conform to the applicable air quality attainment plan or SIP. These conformity provisions were enacted so that Federal agencies would not interfere with efforts to attain the NAAQS.

The DOEE operates an air monitoring network that measures the District’s air pollutants. Table 3-22 summarizes the monitored pollutant concentrations and the number of days each year that the measured concentrations were greater than the NAAQS from 2015 to 2017. Table 3-22 presents the worst-case concentrations of all stations in the District. As shown in Table 3-22, the 8-hour ozone concentrations exceeded NAAQS during each monitoring year. NAAQS were not exceeded for other pollutants and averaging time periods.

Table 3-22 Monitored Pollutant Concentrations in the District

Pollutant	Parameter	NAAQS	2015	2016	2017
CO	Max. 1-hour concentration (ppm)	35	2.2	2.7	2.7
	Max. 8-hour concentration (ppm)	9	2.2	2.6	2.6
	# Days > 1-hour std. of 35 ppm	35	0	0	0
	# Days > 8-hour std. of 9 ppm	9	0	0	0
O ₃	Fourth highest 8-hour concentration (ppm)	0.070	0.072	0.072	0.071
	# Days 8-hr max. > 8-hour std. of 0.070 ppm	0.070	4	4	4
Nitrogen Oxide (NO _x)	98 th Percentile 1-hour concentration (ppm)	0.100	0.053	0.059	0.058
	Annual average (ppm)	0.053	0.018	0.018	0.015
	# Days > 1-hour std. of 0.100 ppm	0.100	0	0	0
PM ₁₀	Max. 24-hour concentration (µg/m ³)	150	44	46	45
	# Days > 24-hour std. of 150 µg/m ³	150	0	0	0
PM _{2.5}	98 th Percentile 24-hour concentration (µg/m ³)	35	28	23	20
	Annual average (µg/m ³)	12	10.0	N/A	10.2
	# Days > 24-hour std. of 35 µg/m ³	35	N/A	N/A	N/A
SO ₂	99 th Percentile 1-hour concentration (µg/m ³)	0.075	0.013	0.008	0.004
	# Days > 1-hour std. of 0.075 ppm	0.075	0	0	0

Source: EPA, 2019e

Notes: Bolded values indicate exceedances.
N/A = Information is not available

3.5.3 Stationary Source Permitting Requirements

Projects involving stationary sources that would emit air pollutants need to comply with applicable Federal, state, and local requirements. The CAA provides EPA with the primary legal authority to regulate air pollution from stationary sources. Like most Federal statutes, the CAA is primarily implemented by state, local, and tribal authorities that have been delegated implementation and regulatory authority by EPA (EPA, 2019e).

Section 111 of the CAA directs EPA to establish pollution control requirements for certain stationary sources which emit significant criteria air pollutants. These requirements are known as New Source Performance Standards (NSPS) and apply to newly constructed sources and those that undergo major upgrades or modifications. The NSPS include both equipment specifications and operation and measurement requirements. The NSPS are developed and implemented by EPA and have been delegated to the states.

The CAA also establishes permitting programs designed to carry out the goals of the Act. New and modified stationary sources are subject to New Source Review (NSR) regulations, preconstruction

permitting programs established as part of the 1977 CAA Amendments. NSR permits are legal documents by which facility owners/operators must abide. The permits specify what construction is allowed, what emission limits must be met, and often how the emissions source may be operated.

The Federal operating permitting program for major sources, also known as Title V of the CAA, is implemented under 40 CFR 70. Title V permits require sources to comply with all applicable Federal, state, or local orders, rules, and regulations. Permit applications include emission estimates based on potential-to-emit, identification of all emission sources and controls, a compliance plan, and a statement indicating each source's compliance status.

The West Campus is currently operating under a Title V operating permit (Permit #044), pursuant to Chapters 20-2 and 20-3 of the DC Municipal Regulations (DCMR), for the boilers and emergency generators at the existing Central Utility Plant (CUP) and Modular Utility Plant (MUP), which provide heating, cooling, and emergency power needs to support the DHS operation. Operation of the utility plants is in compliance with the applicable EPA and DCMR requirements for emission control, monitoring, reporting, and record keeping.

3.5.4 Air Toxics

In addition to the criteria pollutants, EPA regulates air toxic or hazardous air pollutant (HAP) emissions. Controlling air toxic emissions became a national priority with the passage of the CAA Amendments of 1990, whereby Congress mandated that EPA regulate 188 HAPs. National Emission Standards for Hazardous Air Pollutants (NESHAP) are emission standards developed for HAPs at major and area sources to protect the public health with an ample margin of safety and to prevent any significant and adverse environmental effects. The post-1990 NESHAPs require the maximum achievable control technology (MACT) for particular industrial source categories and are often referred to as "MACT standards." Regional requirements for air toxics and HAPs are included in DCMR Chapter 20-7: Volatile Organic Compounds and Hazardous Air Pollutants and Chapter 20-14: Air Toxics and Hazardous Air Pollutants.

For mobile sources, EPA assessed the list of 188 HAPs in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register [FR], Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System. The EPA identified nine compounds with significant contributions from mobile sources that drive or contribute to the national- and regional-scale cancer risk estimates and/or non-cancer hazards identified in the 2011 National Air Toxics Assessment. These compounds, called priority MSAT, are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (FHWA, 2016). No Federal or state ambient air quality standards currently exist for MSAT.

The regional or local air toxic concentrations of MSAT emissions are affected by changes of vehicle mix types and miles traveled. MSAT emissions are expected to be lower than present levels in future years nationwide. Using EPA's Motor Vehicle Emission Simulator (MOVES)¹ 2014a model (EPA, 2015a), FHWA estimates that even if vehicle miles traveled increase by 45 percent from 2010 to 2050 as forecasted, a combined reduction of 91 percent in the total annual emissions for the priority MSATs is projected for the same time period. Diesel particulate matter is the dominant component of MSAT emissions, making up 50 to 70 percent of all priority MSAT pollutants by mass, depending on calendar year (FHWA, 2016). Vehicles currently traveling near the West Campus emit air toxics; however, these roadways do not experience heavy diesel truck traffic (Jacobs, 2019a).

3.5.5 Greenhouse Gases

GHG include both naturally occurring and anthropogenic gases that trap heat in the earth's atmosphere. GHG include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydro-chlorofluorocarbons (HCFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). These gases trap the energy from the sun and help maintain the temperature of the Earth's surface, creating a process known as the greenhouse effect (EPA, 2019f).

EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHG meet the definition of air pollutants under the existing CAA and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. On December 7, 2009, EPA signed the Final Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the CAA. The endangerment finding states that current and projected concentrations of the six key GHG in the atmosphere (CO₂, CH₄, N₂O, HCFC, PFC, and SF₆) could threaten the public health and welfare of current and future generations. Furthermore, EPA found that GHG from motor vehicles contribute to the GHG concentrations that threaten public health and welfare.

On June 26, 2019, CEQ published *Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions* in the Federal Register (84 FR 30097), and the public comment period ended on August 26, 2019. The draft guidance discusses how NEPA analysis and documentation should address GHG emissions. If finalized, the guidance would replace the final guidance CEQ issued on August 1, 2016, entitled *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*,

¹ EPA's MOVES is an emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics.

which was withdrawn on April 5, 2017, for further consideration pursuant to EO 13783 of March 28, 2017, Promoting Energy Independence and Economic Growth.

The District's first GHG inventory was completed in 2006; the most recent GHG inventory was completed in 2016. The District's GHG inventory tracks emissions by source and sector. Sources refer to the fuels that produce energy, and sectors are the main energy-consuming areas of the economy. In the District, emissions come from three main sectors: buildings (75 percent), transportation (21 percent), and waste (4 percent) in 2016. Within these sectors, the main sources of emissions are electricity (57 percent), gasoline (19 percent), and natural gas (17 percent).

The District's GHG emissions totaled 7.5 million metric tons of carbon dioxide equivalent (CO₂e) in 2016, which is a 28 percent decrease since the 2006 inventory and a 6 percent decrease since the last report in 2013. Key drivers behind the reduction since 2006 were an increasingly cleaner electric grid, reduced energy use intensity per square foot of building space, and increased vehicle fuel economy (DOEE, 2019).

In 2016, GHGs associated with District Government operations had fallen 24 percent since 2006 and 9 percent since 2013. These reductions were driven by lower emissions from buildings and facilities, partly due to the cleaner regional electric grid. As a result, the District is on track to meet its ambitious goals to halve emissions by 2032 and to become carbon neutral by 2050 (DOEE, 2019).

The majority of the GHG emissions associated with the St. Elizabeths campus operation are from the heating and energy demand as well as emissions from vehicle travel to and from the facility. Currently, the utility plants are not subject to EPA's GHG reporting requirements.

3.6 Noise

Noise levels discussed in the following sections may be impacted by implementation of Master Plan Amendment 2 and therefore warrant further analysis. The following information is summarized from the Noise Quality Technical Report (Appendix C) (Jacobs, 2019b).

3.6.1 Regulatory Review

The procedural guidelines for assessing noise impacts associated with the construction and operation of highway improvements are codified in the DDOT Noise Policy (Effective date: July 11, 2011). These procedures are based on the FHWA's noise policy at 23 CFR 772. Additionally, the *DC Noise Control Act* and its implementing regulations declared it a policy of DC to reduce the

ambient noise level in the District to promote public health, safety, welfare, and the peace and quiet of the inhabitants of the District.

3.6.2 Existing Noise

As part of the 2008 EIS, a noise analysis was produced for the West Campus. Noise-sensitive receptors were identified, field measurements were made, and noise modeling was conducted. These 2008 EIS modeling results are summarized in Table 3-23, and the modeling locations are shown on Figure 3-18. These are representative locations along Malcolm X Avenue SE, Martin Luther King Jr. Avenue SE, and Firth Sterling Avenue SE/West Campus Access Road, as well as a few receptors that may be affected by changes in land use on the East or West Campuses.

Table 3-23 Noise Level Modeling Results from 2008 EIS Noise Analysis (dBA)

Receptor Location	Existing (2008) Noise Levels
1—Rowhomes—Malcolm X Avenue SE	66
2—Rowhomes—Malcolm X Avenue SE	66
3—Rowhomes—Malcolm X Avenue SE	50
4—Rowhomes—Malcolm X Avenue SE	51
5—Chapel—East Campus	51
6—Rowhomes—Martin Luther King Jr. Avenue SE	67
7—Multi-Family Residences—Barry Farm	59
8—Barry Farm Recreation Center	70
9—Multi-Family Residences—Barry Farm	66
10—Cemetery—West Campus	68
11—Multi-Family Residences—Second Street	55

Baseline noise measurements and a noise analysis were included in Appendix H of the 2012 EIS and summarized in the 2012 EIS. Existing noise levels were modeled at eight representative noise-sensitive receptors. Results are summarized in Table 3-24 and modeling locations are shown on Figure 3-18.

Table 3-24 Noise Level Modeling Results - 2012 EIS [A-weighted decibels (dBA)]

Receptor Location	Existing (2012) Noise Levels
M-01—I-295/Malcolm X Avenue SE	58
M-02—I-295/Malcolm X Avenue SE	57

Receptor Location	Existing (2012) Noise Levels
M-03—West Campus (Gate 4)	48
M-04—Multi-Family Residences—Barry Farm	65
M-05—Multi-Family Residences—Barry Farm	64
M-06—Multi-Family Residences—Barry Farm	53
M-07—East Campus (North Parcel)	54
M-08—East Campus (North Parcel)	49

I-295/Malcolm X Avenue SE Interchange

This area consists of the Congress Heights neighborhoods east of the intersection of I-295 and Malcolm X Avenue SE. The nearest residence to the intersection is a three-story apartment building at 2952 2nd Street SE. Across the street is a picnic area with a horseshoe pit. There are large swaths of forested areas (Shepherd Parkway) between most of the residences and the roadways. However, there are residences along Malcolm X Avenue SE.

The 2012 EIS (Appendix H) describes the soundscape as “not generally quiet.” Bird song is audible but masked by the background sound from I-295 and/or Malcolm X Avenue. Noise monitoring and noise modeling cover both areas:

- In Appendix H of the 2012 EIS, noise monitoring occurred at 2952 2nd Street SE. Noise levels varied between 59 and 61 dBA.
- In the 2008 EIS, similar areas were modeled as the 2012 EIS. Modeling sites #1 through 4 were along Malcolm X Avenue SE. (Monitoring Sites #1 and #2 are first-row receptors² and Monitoring Sites #3 and #4 are second-row receptors.) First-row existing noise levels were predicted to be 66 dBA (second row 51 dBA). First-row 2015 No-Build noise levels were predicted to be 68 dBA (second row 53 dBA). First-row 2015 Build noise levels were predicted to be 71 dBA (second row 55 dBA).
- In the 2008 EIS, modeling site #11 was located at 2nd Street SE. Existing noise levels were predicted to be 55 dBA.

In the 2012 EIS, modeling sites M-01 and M-02 were at 2nd Street SE. The existing average noise level was predicted to be 58 dBA.

² First row receptors are immediately adjacent to the traffic noise generating roadway. Second row receptors are shielded from the roadway by the first row.

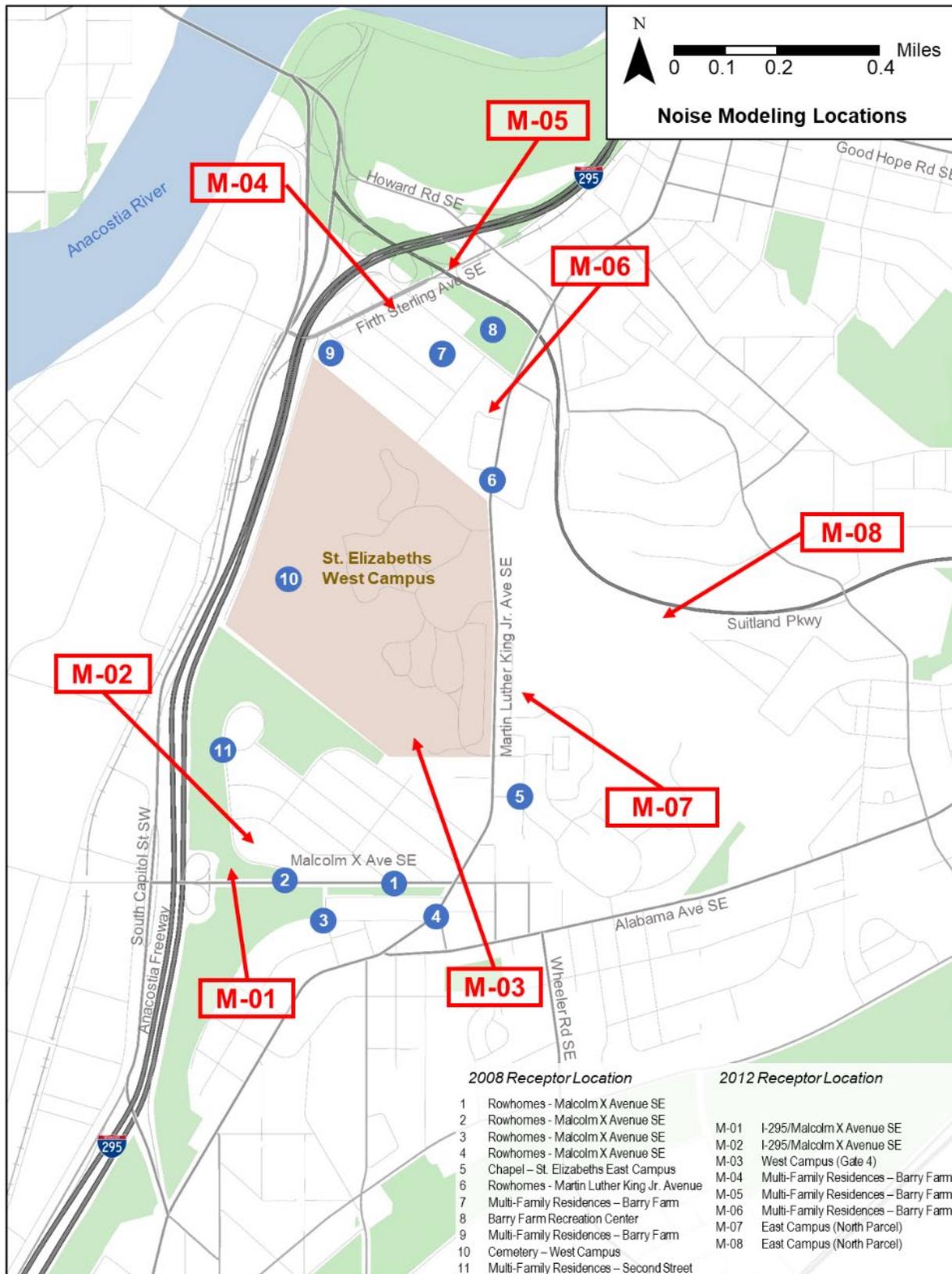


Figure 3-18 Noise Modeling Locations – 2008 EIS and 2012 EIS

Firth Sterling Avenue and West Campus Access Road

This area encompasses the Barry Farm, Park Chester, and Wade Road communities to the north of the West Campus – an area parallel to, and between, I-295 and Martin Luther King Jr. Avenue SE. Currently, this area is predominantly a neighborhood of rowhouses (two-story homes grouped into blocks of eight conjoined residences). Noise impacts come primarily from traffic using the Firth Sterling Avenue SE access road. Nevertheless, the traffic environment is dominated by I-295, masking the traffic (largely trucks) that utilizes the access road.

Noise monitoring and noise modeling within this area include the following:

- In the 2008 EIS, modeling sites #6 through 9 were located in this area (Figure 3-18). Existing noise levels were predicted to range between 59 and 70 dBA.
- In Appendix H of the 2012 EIS, noise monitoring was conducted at five locations. Four of the monitoring locations were along Firth Sterling Avenue SE. Noise levels varied between 67 and 73 dBA. The fifth monitoring location was at the intersection of Eaton Road SE and Wade Avenue SE. The measured noise level at this location was 59 dBA.
- In the 2012 EIS, modeling sites M-04 to M-06 were located in this area. The noise levels vary by location. No noise levels approached the FHWA noise abatement criteria (NAC) (no traffic noise impact).

Review of New Noise-Sensitive Land Uses (2019)

A site review was conducted to evaluate the noise-sensitive land uses potentially affected by Master Plan Amendment 2. The following new or modified noise-sensitive land uses were developed since the 2012 EIS/Master Plan (These sites are shown on Figure 3-19):

- **Gateway DC** is an open-air and covered pavilion located within the East Campus, at 2700 Martin Luther King Jr. Avenue SE, opposite Milwaukee Place SE and West Campus Gate 3 (the southernmost portion of the West Campus). This venue includes a 400-foot-long facility featuring 16,300 square feet of space for vendors and 3,100 square feet of enclosed space. The building is roughly 200 feet from Martin Luther King Jr. Avenue SE. Activities at the site include cultural, artistic, musical programs, festivals, and a farmers' market – activities that are not dependent on a quiet atmosphere (Events DC, 2019a).
- **The R.I.S.E. Demonstration Center** is located at the site of the St. Elizabeths Chapel, just south of Gateway DC. The address is 2730 Martin Luther King Jr. Avenue SE. This facility is on the East Campus (roughly 170 feet from Martin Luther King Jr. Avenue SE).

The R.I.S.E. (Relate, Innovate, Stimulate, and Elevate) Demonstration Center connects the innovation economy, the surrounding communities and residents of Washington, DC, until the development of a permanent East Innovation Hub can be constructed. Outdoor activities seem to be rare and not dependent on a quiet atmosphere (DC, 2019).

- **Friendship Technology Preparatory Academy** is a college preparatory middle and high school (620 Milwaukee Place SE). The school, which opened in 2009, is immediately adjacent to the West Campus and focuses on science, technology, engineering, and math. Another building is under construction at 2705 Martin Luther King Jr. Avenue SE. The new building is across the street from Gateway DC, with the building immediately adjacent to the sidewalk, along Martin Luther King Jr. Avenue SE. Outdoor spaces are limited and seemingly in flux as the facilities are being developed. No activities dependent on a quiet atmosphere are present (Friendship Public Charter School, 2019).
- **UCC** is a state-of-the-art call center for the District of Columbia. The UCC opened on September 25, 2006, on the East Campus. The UCC receives and processes calls to 911 and the District's customer service line. During major emergencies, the center becomes the District's Emergency Operations Center (Mayor's Command Center) and provides a central location for multiple agencies. Located at 2720 Martin Luther King Jr. Avenue SE, the UCC's southern entry point is at the Rosewood Street intersection with the West Campus (Gate 2). All outdoor spaces of frequent human use are located behind the building, several hundred feet from Martin Luther King Jr. Avenue SE. No activities dependent on a quiet atmosphere are present (DC OUC, 2019).
- **Entertainment and Sports Arena** is located on Parcels 9 and 12 of the *St. Elizabeths East Campus – Parking Master Plan Study* (Figure 3-20) (DMPED, 2017). The venue is a 4,200-seat venue for the Washington Mystics opened in 2016. It also includes related support areas. Currently, there are 75 annual events with up to 22 events requiring parking for sold-out venues. No activities dependent on a quiet atmosphere are present (Events DC, 2019b).

Future Land Uses

Future land uses that may be sensitive noise receptors were identified in the *St. Elizabeths East Campus—Parking Master Plan Study* (DMPED, 2017) (Figure 3-20). In this plan, the East Campus was segmented into 17 parcels and includes the following development:

- 252 apartments on East Campus with adaptive reuse of the seven historic buildings on parcel 11. Up to 84 onsite parking spaces would be provided by the developer.

- Up to 120 townhomes on parcels 10 and 14 with parking provided in garages or driveways (off-street) for all units.
- Parcel 17 being developed with 171,000 square feet (sf) of office space and 30,000 sf assumed for retail. Roughly 140 parking spaces are slated to be developed on this site by the developer. The District has the option to fund an additional 140 spaces on this parcel when it is developed.

3.7 Transportation

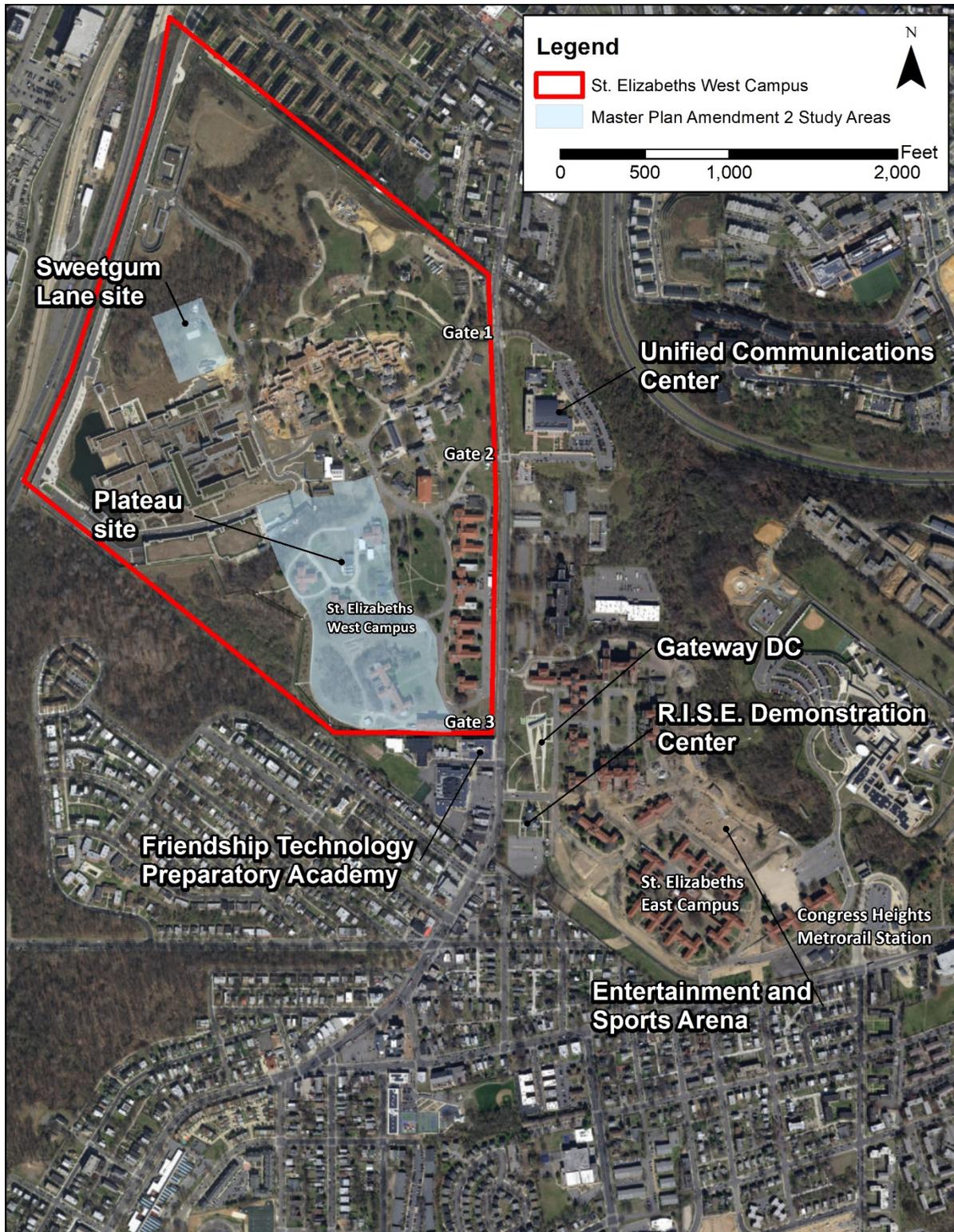
A Transportation Technical Report (TTR) was completed for Master Plan Amendment 2 that is provided as Appendix D (Jacobs, 2019c). The purpose of the TTR was to assess the existing transportation network, including public and shared facilities, analyze system traffic, identify traffic operational deficiencies of the roadway network in the vicinity of the West Campus, and to evaluate transportation impacts associated with Master Plan Amendment 2.

This section of the EIS summarizes the evaluation of existing transportation conditions that are detailed in Chapters 3 and 4 of the TTR. The study area for the TTR, referred to in this Supplemental EIS as the Transportation Study Area, encompasses 43 intersections in the vicinity of the West Campus that are identified on Figure 3-21 and listed in Table 3-27.

3.7.1 Roadway Network

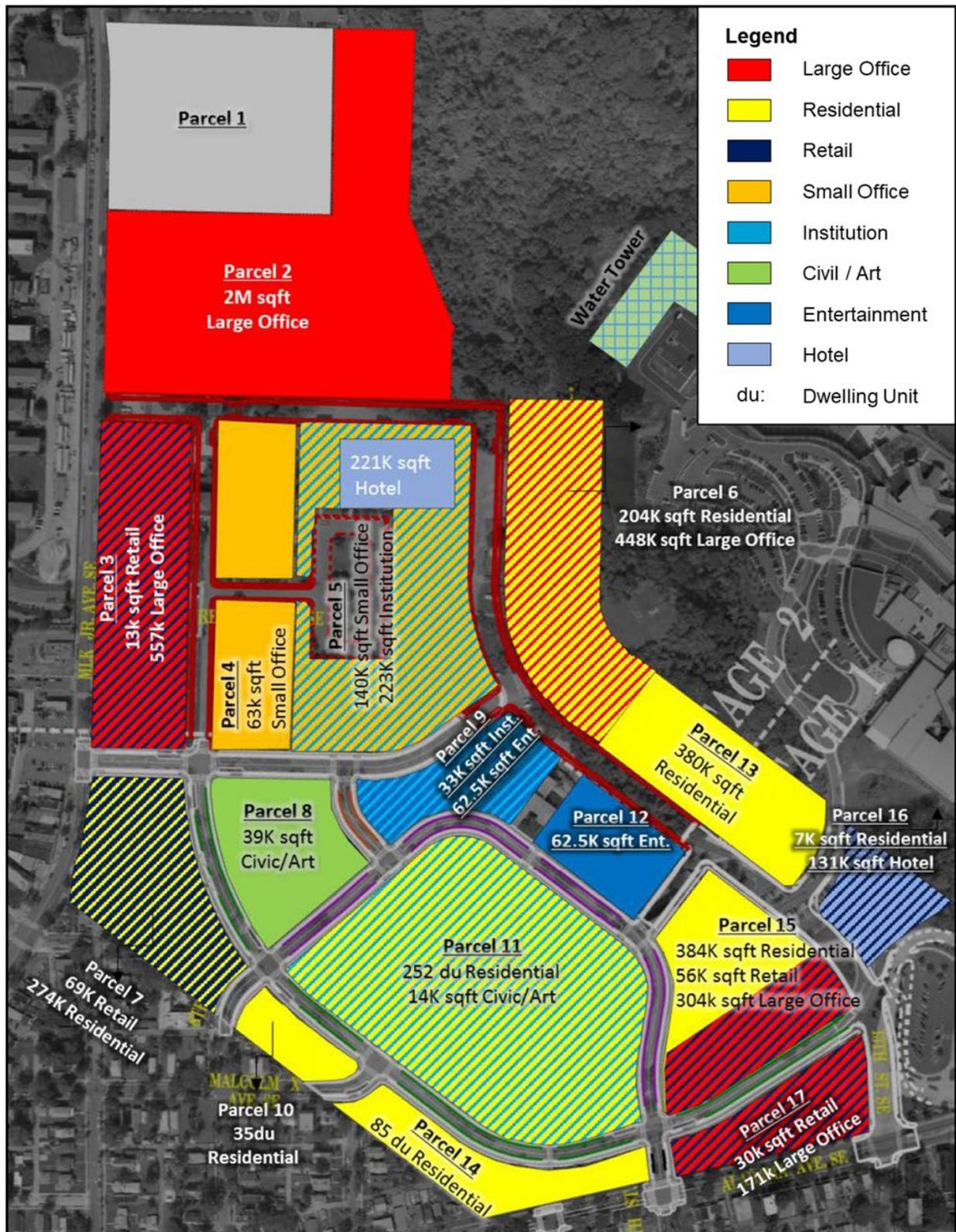
The Transportation Study Area for Master Plan Amendment 2 includes several roadways classified as interstate, expressway/freeway, arterial, collector, and local roads, which are identified below. Roadway functional classifications were obtained from the District of Columbia Functional Classification Map maintained by DDOT (Figure 3-22) (DDOT, 2016). For definitions of the functional classifications see Section 3.1 of the TTR in Appendix D. Characteristics for these roadways are summarized in Table 3-25.

DC 295 (Anacostia Freeway), located east of the Anacostia River, is a four-lane divided limited-access interstate roadway with auxiliary lanes between the South Capitol Street SE interchange and the 11th Street Bridge and a posted speed limit of 50 miles per hour (mph). It generally runs in a north-south direction within Ward 8. On September 4, 2018, DDOT began construction on the I-295/Malcolm X Avenue Interchange Improvement Project. The multiple phases of this project include the reconstruction of the I-295 interchange with Malcolm X Avenue SE including modified ramps and a new access roadway to the West Campus. The project is scheduled to be completed by Spring 2022. The planned improvements will be made between Firth Sterling Avenue SE to the north and the South Capitol Street SE/Martin Luther King Jr. Avenue SE intersection to the south.



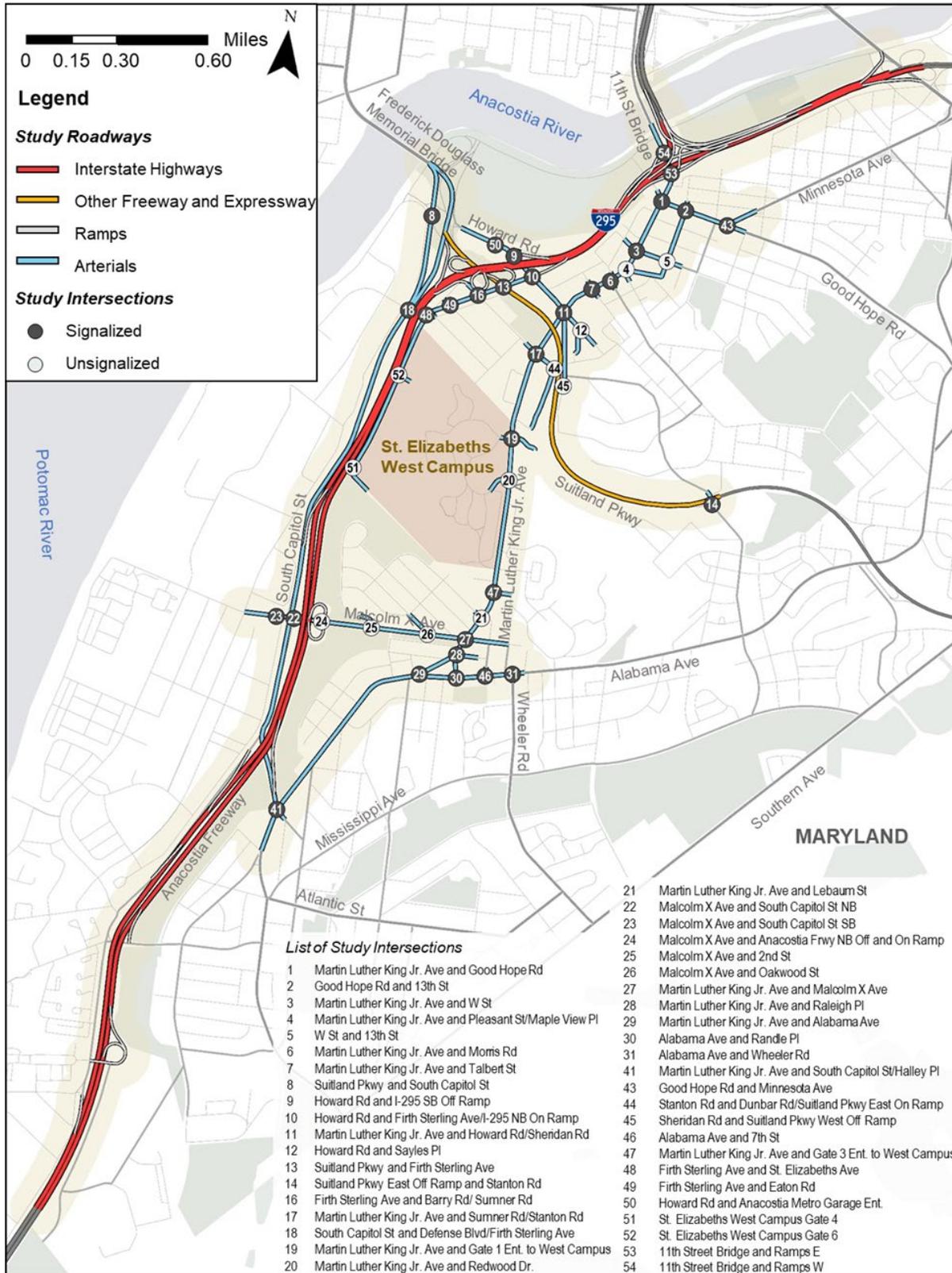
Source: Jacobs, 2019b

Figure 3-19 Location of 2019 Noise-Sensitive Land Uses



Source: Jacobs, 2019b

Figure 3-20 Planned East Campus Development



Source: Jacobs, 2019c

Figure 3-21 Intersections evaluated within the Transportation Study Area

During the construction period, DDOT reduced the speed limit from 50 mph to 40 mph on the section of I-295 between the area south of Exit 1, U.S. Naval Research Laboratory, and the area south of East Capitol Street NE.

Suitland Parkway is a limited-access freeway that generally runs east-west between South Capitol Street SE and Andrews Air Force Base in Prince George's County, Maryland. Its cross-section varies from four lanes east of the Martin Luther King Jr. Avenue SE overpass to six lanes west of I-295. It is classified as an expressway through the Transportation Study Area and carries mostly commuter traffic. The speed limit on Suitland Parkway ranges from 35 to 45 mph from the South Capitol Street Bridge to Alabama Avenue SE.

Martin Luther King Jr. Avenue SE is a four-lane urban minor arterial that runs north-south from the 11th Street Bridge to DC Village in Southwest Washington, DC. The speed limit is 30 mph within the Transportation Study Area. However, the posted speed limit along Martin Luther King Jr. Avenue SE ranges from 25 to 30 mph from the 11th Street Bridge to South Capitol Street SE. Parking is permitted on either side of the street north and south of the St. Elizabeths complex. Between the north and south borders of St. Elizabeths, parking is prohibited along the northbound side of the street during the AM peak period and along the southbound side of the street during the PM peak period.

South Capitol Street SE is classified as a principal arterial north of Firth Sterling Avenue SE/Defense Boulevard. The Frederick Douglass Memorial Bridge carries South Capitol Street SE across the Anacostia River, where it continues south, parallel to I-295. The classification of the roadway changes from principal arterial to minor arterial south of the South Capitol Street SE and Firth Sterling Avenue SE intersection. The posted speed limit is 35 mph north of Firth Sterling Avenue SE and 40 mph south of Firth Sterling Avenue SE.

Malcolm X Avenue SE is a four-lane urban minor arterial that runs east-west and extends from South Capitol Street SE and the JBAB main gate to 8th Street SE and serves as the main connection thoroughfare for residential areas. The speed limit along Malcolm X Avenue SE is 30 mph. Parking is allowed on both sides of the street east of the I-295 on- and off-ramps.

Howard Road SE is a four-lane collector road that runs southeast from South Capitol Street SE to Bowen Road SE, traveling under I-295. Vehicles are permitted to park along both sides of Howard Road SE west of I-295. Traveling westbound on Howard Road SE is the most direct route from southbound I-295 to downtown DC (via northbound South Capitol Street SE). Howard Road SE also provides access to the Anacostia Metrorail Station and garage. The speed limit along Howard Road SE is 25 mph.

Firth Sterling Avenue SE is a four-lane collector road that runs southwest to northeast from South Capitol Street SE (Anacostia Naval Station entrance) to the I-295 northbound on-ramp just north of Howard Road SE. Firth Sterling Avenue SE is a major route for motorists and pedestrians traveling between the Anacostia Naval Annex, the Anacostia Metrorail Station, and Historic Anacostia. It also provides access to the Barry Farm neighborhood. The speed limit for Firth Sterling Avenue SE is 25 mph.

Alabama Avenue SE is a minor arterial that comprises the eastern and southern border of the Transportation Study Area. Its cross-section is one lane with a curbside parking lane in each direction. Access to and from the Congress Heights Metrorail Station is provided via a signalized intersection at Alabama Avenue SE. The speed limit on Alabama Avenue SE within the Transportation Study Area is 25 mph.

Good Hope Road SE is an undivided minor arterial that runs east-west through the Transportation Study Area and has a posted speed limit of 25 mph. Good Hope Road SE has on-street parking on either side of the roadway. The section between Martin Luther King Jr. Avenue SE and Minnesota Avenue SE is a four-lane roadway (two travel lanes in each direction). The section between Minnesota Avenue SE and 16th Street SE is a four-lane section with one travel lane and a parking lane in each direction.

13th Street SE is a one-way three-lane collector road that runs north-south within the Transportation Study Area and has a posted speed limit of 25 mph. 13th Street SE has on-street parking on either side of the roadway.

Pleasant Street SE is a two-way local road that runs east-west through the Transportation Study Area and has a posted speed limit of 25 mph. Pleasant Street SE has on-street parking on the north side of the roadway. Along Pleasant Street SE, there is Capital Bikeshare parking on the north side of the roadway, close to Martin Luther King Jr. Avenue SE.

St. Elizabeths Avenue SE (also known as West Campus Access Road) is a local road that runs along the west side of the Campus between Firth Sterling Avenue SE and West Campus Gate 4. As part of the I-295/Malcolm X Avenue Interchange Improvement Project, St. Elizabeths Avenue SE will be further extended south and connected to I-295 through the Malcolm X Avenue SE interchange. The project is currently under construction and expected to be completed by Spring 2022. The speed limit for St. Elizabeths Avenue SE is 25 mph.

Table 3-25 Roadway Classifications and Characteristics

Roadway	Classification	Number of Lanes ^a	Posted Speed Limits	On-Street Parking	Existing Roadway Condition
I-295	Interstate	5 – 6	50 mph ^b	No	Fair
Suitland Parkway	Freeway	4 – 6	35 – 45 mph	No	Good
Martin Luther King Jr. Avenue SE	Minor Arterial	4	25 – 30 mph ^c	Yes	Good
South Capitol Street SE	Principal / Minor Arterial	4 – 5	35 – 40 mph	No	Fair to Good
Malcolm X Avenue SE	Minor Arterial	4	30 mph	Yes	Good
Howard Road SE	Collector	4	25 mph ^c	Yes	Fair
Firth Sterling Avenue SE	Collector	4	25 mph ^c	No	Excellent
Alabama Avenue SE	Minor Arterial	4	25 mph	Yes	Good
Good Hope Road SE	Minor Arterial	4	25 mph	Yes	Good
13th Street SE	Collector	3	25 mph	Yes	Excellent
Pleasant Street SE	Local Road	3	25 mph	Yes	Fair
St. Elizabeths Avenue SE	Local Road	3	25 mph	No	Excellent

Source: Jacobs, 2019c

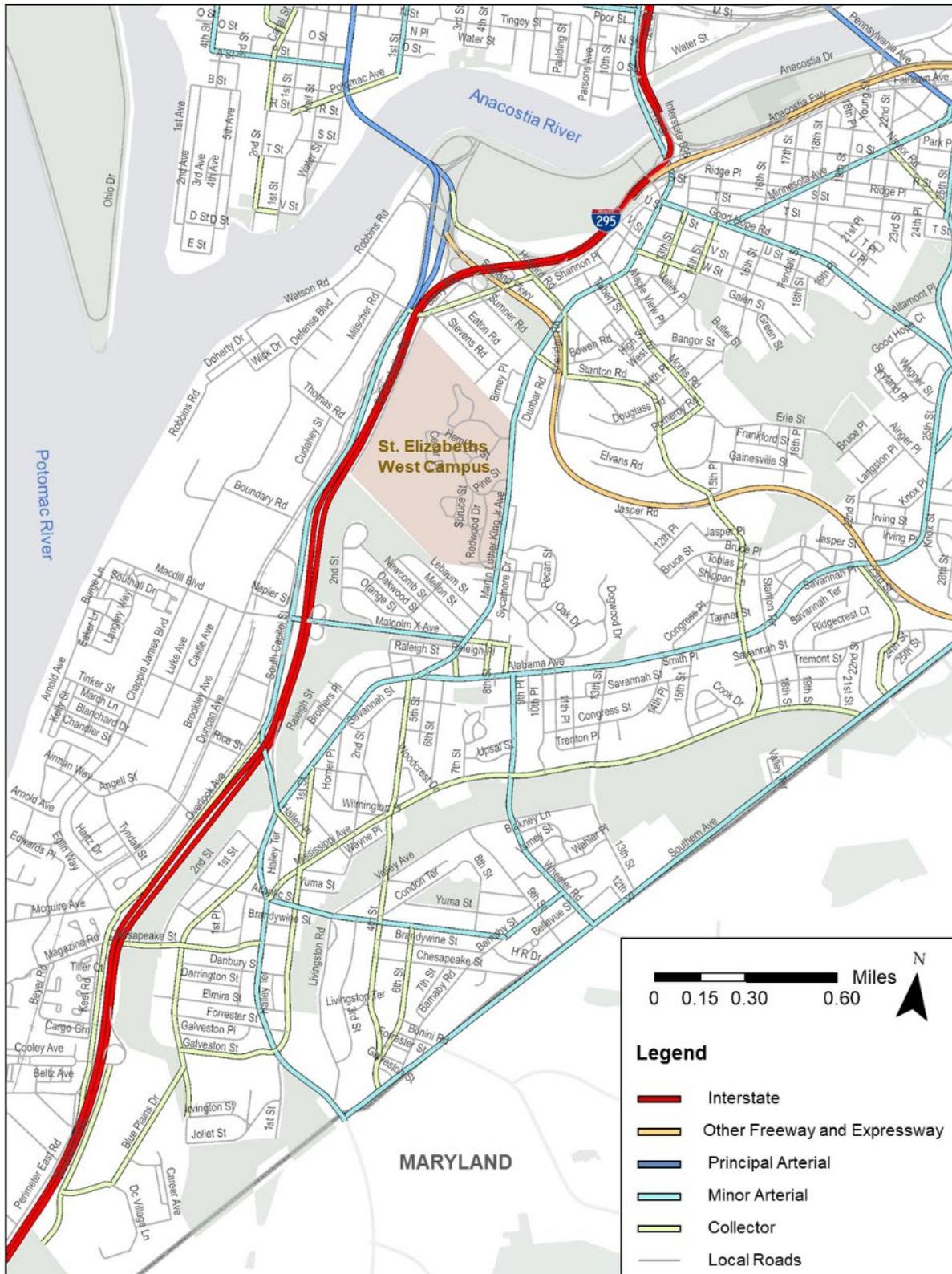
Notes: a. Dedicated parking lanes are included in the number of lanes provided where applicable.

b. As of August 2019, the posted speed limit is reduced to 40 mph on the section of I-295 between the area south of Exit 1, US Naval Research Laboratory, and the area south of East Capitol Street NE due to the I-295 Malcolm X Avenue Interchange Project (DDOT, 2019c).

c. There are sections at school zones with 15 mph posted speed limits during 7:00 a.m. – 5:00 p.m.

Direct access to the West Campus is currently provided by Gates 4, 5, and 6 on St. Elizabeths Avenue SE; three of six existing gates along the perimeter of the campus. These gates are actively used by DHS employees and visitors and for deliveries. The three remaining gates (Gates 1, 2, and 3) are located along the eastern boundary of the site on Martin Luther King Jr. Avenue SE. These gates are currently inactive but are planned to be opened in conjunction with future site development. Gates 1 and 2 will be available to DHS employees to access underground garages to be constructed, while Gate 3 will be available for emergency vehicles only.

Curbside parking available around the West Campus is limited. Neighborhood street parking is not intended to serve as parking for employees who work at the West Campus. Martin Luther King Jr. Avenue SE has no parking adjacent to the West Campus and limited parking with peak period restrictions to the north and south. Along Malcolm X Avenue SE to the south of the West Campus, parking is available with fewer restrictions. Additionally, there are Residential Permitted Parking (RPP) restrictions on several of the neighborhood roads (e.g., Sumner Road SE, Lebaum Street SE, and Mellon Street SE) immediately north and south of the West Campus.



Source: Jacobs, 2019c

Figure 3-22 Roadway Functional Classification in St. Elizabeths Area

3.7.2 Local Transit Facilities and Service

Public transportation within the area surrounding the West Campus is provided primarily by Metrorail and Metrobus, which are operated by WMATA. WMATA provides Metrorail access to the Green Line at the Anacostia and Congress Heights Metrorail Stations. The Anacostia Station is approximately 0.6 miles from the nearest West Campus entrance (Gate 1). The walk time from the Anacostia Metrorail Station to Gate 1 is about 14 minutes. The Anacostia Metrorail Station is served by 18 Metrobus routes with stops at or near the station. Currently, Metrobus routes A4 and W5 travel between the Anacostia Metrorail Station and West Campus Gate 4. There are bus bays next to Gate 4 along St. Elizabeths Avenue SE. Metrobus routes A2, A4, A6, A7, A8, A9, W2, and W3 stop at Anacostia Metrorail Station and on both sides of Martin Luther King Jr. Avenue SE near West Campus Gates 1 and 2.

The Congress Heights Metrorail Station is approximately 0.8 miles from the nearest West Campus entrance (Gate 3). Direct pedestrian access from Congress Heights Station to the West Campus is provided through various existing pedestrian facilities such as sidewalks and crosswalks, with walk times of about 15 minutes to Gate 3. The Congress Heights Metrorail Station is served by eight Metrobus routes that stop at or near the station.

Regional commuter rail service provided by Virginia Railway Express can be accessed at Union Station or through connections available at L'Enfant Plaza Station. Maryland Area Regional Commuter provides service from Maryland to Union Station.

Regional commuter bus services that provide indirect service to the West Campus include the Virginia-based Potomac and Rappahannock Transportation Commission, Fairfax Connector, Loudoun County Transit, and OmniRide; and the Maryland-based Maryland Transit Authority (MTA) commuter buses, and Prince George's County/Charles County transit providers. Buses typically pick up at park-and-ride lots and drop off at multiple locations in downtown DC. In addition, the Route 630 Commuter Bus, operated by MTA, travels between La Plata/Waldorf (in Charles County, Maryland) and Washington, and stops at the intersection of South Capitol Street SE and Malcolm X Avenue SE.

DDOT, in partnership with DC Surface Transit, Inc. and NPS, operates several DC Circulator bus routes through Washington, DC. These buses typically operate every 10 minutes. The DC Circulator route between Congress Heights Station and Union Station travels through the Transportation Study Area.

3.7.3 Pedestrian and Bicycle Conditions

Primary pedestrian routes in the vicinity of the West Campus include Martin Luther King Jr. Avenue SE, Firth Sterling Avenue SE, and Howard Road SE. Pedestrian access to the campus is provided via sidewalks on each roadway; most intersections have crosswalks and wheelchair accessible curb ramps. Sidewalks are provided on most of the major roadways in the Transportation Study Area and are composed of concrete, brick, asphalt, or a combination of these materials; only I-295 does not have sidewalks. Suitland Parkway has a pathway that runs parallel to the roadway for a limited section. Sidewalks along Howard Road SE and Martin Luther King Jr. Avenue SE provide direct pedestrian access from the Anacostia Metrorail Station to the existing West Campus gates. There is a grass buffer (typically 4 feet) between the vehicle travel lanes and the sidewalk in many locations within the Transportation Study Area. Sidewalks are generally adequate to carry the existing relatively low levels of pedestrian traffic adjacent to the West Campus.

Further south on Martin Luther King Jr. Avenue SE (near Malcolm X Avenue SE), numerous retail establishments, schools, and bus stops generate high levels of pedestrian activity. The Martin Luther King Jr. Avenue SE/Malcolm X Avenue SE intersection has crosswalks and countdown pedestrian signals. A crossing guard is present during the peak periods of school-age pedestrian usage to improve safety along this corridor. There are numerous driveways that cross the sidewalk along this segment of Martin Luther King Jr. Avenue SE as well as overgrown vegetation at a few locations.

Firth Sterling Avenue SE currently has a continuous pedestrian route along the southern side of the roadway from the JBAB gate at South Capitol Street SE to the Anacostia Metrorail Station. Crosswalks exist on the south and west legs of the Firth Sterling Avenue SE/South Capitol Street SE intersection. A crosswalk exists across the east leg of the intersection of Firth Sterling Avenue SE/Suitland Parkway.

The overall condition of the sidewalks along the major roadways in the Transportation Study Area is summarized in Table 3-26. Overall, the condition of sidewalks is fair to good and appears to provide adequate capacity for pedestrian users on at least one side of the roadway.

Table 3-26 Sidewalk Assessment

Roadway	Sidewalk Assessment		
	Width (ft)	Material	Overall Condition
South Capitol Street SE (South Capitol Street Bridge to Martin Luther King Jr. Avenue SE)	6	Concrete and Asphalt	Good to Fair
Martin Luther King Jr. Avenue SE (11 th Street Bridge to South Capitol Street SE)	≤ 6	Brick and Concrete	Good

Roadway	Sidewalk Assessment		
	Width (ft)	Material	Overall Condition
Martin Luther King Jr. Avenue SE (within West Campus Boundaries)	< 6	Concrete	Fair
Alabama Avenue SE (Suitland Parkway to Martin Luther King Jr. Avenue SE)	6	Concrete	Good
Suitland Parkway (South Capitol Street Bridge to Stanton Road SE)	6	Asphalt	Good
Malcolm X Avenue SE (South Capitol Street SE to Martin Luther King Jr. Avenue SE)	6	Concrete	Good
Howard Road SE (South Capitol Street Bridge to Martin Luther King Jr. Avenue SE)	> 6	Concrete	Good
Firth Sterling Avenue SE (South Capitol Street SE to I-295 north of Suitland Parkway)	6	Concrete	Good to Fair
13 th Street SE (Pleasant Street SE to Good Hope Road SE)	6	Brick and Concrete	Good
Pleasant Street SE (13 th Street SE to Martin Luther King Jr. Avenue SE)	6	Brick and Concrete	Good
Good Hope Road SE (Martin Luther King Jr. Avenue SE to 16 th Street SE)	6	Brick and Concrete	Good to Fair

Source: Jacobs, 2019c

There are several bicycle facilities within the Transportation Study Area. A signed bicycle route runs along Howard Road SE from east of Martin Luther King Jr. Avenue SE to Poplar Point along the Anacostia River. There are walking and bicycle trails along Suitland Parkway that ends at Martin Luther King Jr. Avenue SE near the Anacostia Metrorail Station, and along South Capitol Street SE north of Firth Sterling Avenue SE that connects to the Frederick Douglass Memorial Bridge. The 2013 update to the 2005 District of Columbia Bicycle Master Plan notes that the connection between the bicycle facilities and the bridge are substandard on the southern side of this bridge (DDOT, 2013). A portion of Martin Luther King Jr. Avenue SE between Alabama Avenue SE and South Capitol Street SE and Malcolm X Avenue SE have designated bicycle lanes. Currently there are no designated bicycle facilities directly connected to the West Campus.

Capital Bikeshare racks can be found in several locations north and south of the West Campus along Martin Luther King Jr. Avenue SE, and bicycle lockers are located at both the Anacostia and Congress Heights Metrorail Stations.

3.7.4 Existing Traffic Operations and Capacity Analysis

Intersection Controls

Among the 43 intersections within the Transportation Study Area, 31 intersections are signalized. The remaining 12 intersections are either two-way stop-controlled (TWSC) or one-way stop-controlled (OWSC) with stop signs. Table 3-27 shows all the study area intersections and the type of control present.

Existing Daily Traffic Volumes

A traffic analysis was conducted for Master Plan Amendment 2 that included determining existing average weekday daily traffic (AWDT) volumes along major arterials and key intersections by conducting daily traffic counts for a two-day, midweek period during November 2018 through March 2019; and turning movement counts at the 43 intersections within the Transportation Study Area. Table 4-2 in the TTR provides the existing AWDT volumes by direction at 15 locations within the Transportation Study Area. Chapter 2 of the TTR provides the daily traffic count locations.

Based on a comprehensive review of traffic volumes in the Transportation Study Area, the AM peak hour for most of the intersections occurs between 7:15 a.m. and 8:15 a.m., and the PM peak hour occurs between 4:30 p.m. and 5:30 p.m. Traffic volume and movement data during peak AM and PM hours were inputted into the VISSIM traffic simulation software program to determine the existing operational conditions, including delay per vehicle and Level of Service (LOS), at the 43 intersections within the Transportation Study Area.

The definitions of LOS for different facilities are provided in Chapter 2 of the TTR. A detailed discussion of the VISSIM model development and validation process, as well as intersection, freeway, and arterial existing conditions results, can be found in Chapter 4 of the TTR.

Existing Intersection Operations

The VISSIM analysis results of existing operational conditions at the 43 intersections within the Transportation Study Area are summarized in Table 3-27.

Table 3-27 Existing AM and PM Peak-Hour Delay and LOS

Int ID	Intersection	Traffic Control	2019 AM Peak Hour		2019 PM Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1	Martin Luther King Jr. Avenue SE and Good Hope Road SE	Signal	61	E	58	E
2	Good Hope Road SE and 13 th Street SE	Signal	34	C	9	A
3	Martin Luther King Jr. Avenue SE and W Street SE	Signal	9	A	29	C

Int ID	Intersection	Traffic Control	2019 AM Peak Hour		2019 PM Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
4	Martin Luther King Jr. Avenue SE and Pleasant Street SE/Maple View Place SE	TWSC	31	D	161	F
5	W Street SE and 13 th Street SE	TWSC	13	B	9	A
6	Martin Luther King Jr. Avenue SE and Morris Road SE	Signal	42	D	74	E
7	Martin Luther King Jr. Avenue SE and Talbert Street SE	Signal	23	C	13	B
8	Suitland Parkway and South Capitol Street SE	Signal	165	F	17	B
9	Howard Road SE and I-295 SB Off-Ramp	Signal	16	B	30	C
10	Howard Road SE and Firth Sterling Avenue SE/I-295 NB On-Ramp	Signal	24	C	23	C
11	Martin Luther King Jr. Avenue SE and Howard Road SE/Sheridan Road SE	Signal	67	E	57	E
12	Howard Road SE and Sayles Place SE	OWSC	5	A	6	A
13	Suitland Parkway and Firth Sterling Avenue SE	Signal	53	D	40	D
14	Suitland Parkway and Stanton Road SE	Signal	104	F	110	F
16	Firth Sterling Avenue SE and Barry Road SE/Sumner Road SE	Signal	13	B	13	B
17	Martin Luther King Jr. Avenue SE and Sumner Road SE/Stanton Road SE	Signal	15	B	26	C
18	South Capitol Street SE and Defense Blvd/Firth Sterling Avenue SE	Signal	25	C	37	D
19	Martin Luther King Jr. Avenue SE and West Campus Gate 1	Signal	4	A	7	A
20	Martin Luther King Jr. Avenue SE and Redwood Drive	TWSC	14	B	17	C
21	Martin Luther King Jr. Avenue SE and Lebaum Street SE	TWSC	97	F	41	E
22	Malcolm X Avenue SE and South Capitol Street SE NB	Signal	22	C	7	A
23	Malcolm X Avenue SE and South Capitol Street SE SB	Signal	13	B	89	F
24	Malcolm X Avenue SE and I-295 NB On- and Off-Ramps	OWSC	41	E	18	C
25	Malcolm X Avenue SE and 2 nd Street SE	OWSC	10	A	7	A
26	Malcolm X Avenue SE and Oakwood Street SE	OWSC	3	A	4	A
27	Martin Luther King Jr. Avenue SE and Malcolm X Avenue SE	Signal	42	D	46	D
28	Martin Luther King Jr. Avenue SE and Raleigh Place SE	Signal	23	C	17	B
29	Martin Luther King Jr. Avenue SE and Alabama Avenue SE	Signal	22	C	22	C
30	Alabama Avenue SE and Randle Place SE	Signal	18	B	18	B
31	Alabama Avenue SE and Wheeler Road SE	Signal	96	F	55	D
41	Martin Luther King Jr. Avenue SE/South Capitol Street SE/Halley Place SE	Signal	104	F	82	F
43	Good Hope Road SE and Minnesota Avenue SE	Signal	49	D	12	B
44	Stanton Road SE and Dunbar Road SE/Suitland Parkway EB On-Ramp	TWSC	1	A	2	A
45	Sheridan Road SE and Suitland Parkway WB Off-Ramp	OWSC	17	C	9	A
46	Alabama Avenue SE and 7 th Street SE	Signal	28	C	20	B
47	Martin Luther King Jr. Avenue SE and West Campus Gate 3	Signal	6	A	13	B
48	Firth Sterling Avenue SE and St. Elizabeths Avenue SE	Signal	13	B	18	B
49	Firth Sterling Avenue SE and Eaton Road SE	Signal	3	A	6	A
50	Howard Road SE and Anacostia Metro Garage Entrance	Signal	2	A	15	B
51	West Campus Gate 4	OWSC	1	A	9	A
52	West Campus Gate 6	OWSC	9	A	3	A
53	Martin Luther King Jr. Avenue SE/11 th Street Bridge and I-295 NB Off-Ramp	Signal	30	C	38	D
54	11 th Street Bridge and I-295 SB On-Ramp	Signal	7	A	5	A

Source: Jacobs, 2019c

AM Peak Hour

During the AM peak hour, five intersections operate at LOS F and another three intersections at LOS E. The following paragraphs highlight the potential leading factors of poor operations of these intersections during the AM peak hour.

- The intersection of Martin Luther King Jr. Avenue SE and Good Hope Road SE is a gateway point for the Anacostia area to and from the freeways and downtown DC. In the morning, this intersection carries heavy traffic toward the 11th Street Bridge or I-295/DC 295 and operates at LOS E. In particular, the through traffic on northbound Martin Luther King Jr. Avenue SE averages 740 vehicles in the AM peak hour; while the competing movement, the right-turn traffic from westbound Good Hope Road SE is even heavier at over 900 vehicles per hour. It usually takes more than one cycle for both movements to be discharged through the intersection in the AM peak hour.
- The intersection of Suitland Parkway and South Capitol Street SE operates at LOS F during the AM peak hour. Northbound Frederick Douglass Memorial Bridge is a major bottleneck location in the AM peak hour due to heavy inbound traffic toward downtown DC. Northbound traffic experiences stop-and-go conditions, and the queue frequently spills back to this intersection, which in turn causes excessive delay on two approaches at this intersection; northbound approach on South Capitol Street SE and northbound approach on Suitland Parkway.
- The intersection of Martin Luther King Jr. Avenue SE and Howard Road SE/Sheridan Road SE is approaching a LOS E condition during the AM peak hour. The unconventional geometry of this five-legged intersection, the split intersection phasing, bus blockages along Sheridan Road SE, and the high pedestrian volumes conflicting with unprotected left and right turning movements all contribute to poor intersection operations at the location.
- The intersection of Suitland Parkway and Stanton Road SE is a major bottleneck along Suitland Parkway, approaching LOS F during the AM peak hour. The key contributing factor is the limited capacity at the at-grade intersection to handle excessive traffic demand on Suitland Parkway mainlines as well as heavy turning movements from Stanton Road. The queues on Suitland Parkway from this intersection could extend over 1 mile in the morning.
- The Martin Luther King Jr. Avenue SE and Lebaum Street SE intersection is a TWSC intersection that has very high average vehicle delays for the westbound approach. High traffic volumes and the proximity of two closely spaced signalized intersections along Martin Luther King Jr. Avenue SE (Malcolm X Avenue SE and West Campus Gate 3) result in

westbound vehicles having a difficult time finding acceptable gaps to turn into the traffic stream on Martin Luther King Jr. Avenue SE.

- Malcolm X Avenue SE and northbound I-295 ramps is a TWSC intersection operating at LOS E. The southbound approach from the northbound I-295 off-ramp is heavy in the morning. This ramp carries, on average, 600 vehicles in the AM peak hour, which includes 500 right-turn vehicles under yield control and 100 left-turn vehicles under stop control. In addition, on the westbound approach on Malcolm X Avenue SE, there are, on average, 550 left-turn vehicles to the northbound I-295 on-ramp. Heavy turning movements at this unsignalized intersection results in long delay times in the AM peak hour.
- The intersection of Alabama Avenue SE and Wheeler Road SE operates at LOS F condition during the AM peak hour. The main contributing factor for the poor LOS is the heavy left-turn traffic from northbound Wheeler Road SE, 800 vehicles per hour. These left-turn vehicles would need to wait for multiple cycles to be discharged through the intersection. Also, along Alabama Avenue SE, intersections are closely spaced and queues from upstream intersection periodically spill back, which further increases the difficulties for northbound Wheeler Road SE traffic to turn onto Alabama Avenue SE.
- The intersection of Martin Luther King Jr. Avenue SE and South Capitol Street SE/Halley Place SE is another gateway point for the Anacostia southwest area. Major traffic comes to this point to access I-295 and South Capitol Street SE in the morning. VISSIM analysis indicates the northbound left-turn movement at this intersection is operating over capacity, and the intersection operates at LOS F. This is primarily attributed to heavy northbound traffic volumes (1,275 vehicles per hour) and poor lane utilization due to the northbound I-295 ramp approximately 300 feet downstream of the intersection. Furthermore, since a large portion of the intersection green time is allocated to the northbound approach, other approaches have much shorter green intervals, and, therefore, all approaches have high average vehicle delays.

PM Peak Hour

During the PM peak hour, four study intersections operate at LOS F and four other intersections operate at LOS E. Most locations are similar to the AM peak hour conditions, with reversed traffic flows. The following paragraphs highlight the causes of poor intersection operations within the Transportation Study Area during the PM peak hour.

- The Martin Luther King Jr. Avenue SE and Good Hope Road SE intersection operates at LOS E during the PM peak hour. The split phasing for all four approaches in conjunction

with high southbound traffic volumes (1,290 vehicles per hour) contribute to the poor operations at this location.

- The two adjacent intersections on Martin Luther King Jr. Avenue SE at Pleasant Street SE/Maple View Place SE and at Morris Road SE are both under two-way stop-control. They operate at LOS F and LOS E, respectively, during the PM peak hour. High pedestrian crossing traffic and heavy through traffic along this section of Martin Luther King Jr. Avenue SE lead to long delay times for side street traffic under unsignalized controls.
- Similar to the AM peak hour, the intersection of Martin Luther King Jr. Avenue SE and Howard Road SE/Sheridan Road SE operates at LOS E with high vehicle delays. The unconventional geometry of this five-legged intersection, the split intersection phasing, bus blockages along Sheridan Road SE, and the high pedestrian volumes conflicting with unprotected left and right turning movements all contribute to poor intersection operations at the location. Furthermore, during the PM peak hour, northbound left-turning vehicles heading to northbound I-295 and Suitland Parkway struggle to find gaps in the opposing southbound traffic stream, leading to high vehicle delays for this movement.
- The bottleneck conditions at the intersection of Suitland Parkway and Stanton Road SE also exist during the PM peak hour. Significant eastbound traffic on Suitland Parkway and limited green time for side streets are the key factors contributing to a LOS F condition at this intersection.
- The Martin Luther King Jr. Avenue SE and Lebaum Street SE intersection operates at LOS E in the PM peak hour with a similar situation as in the AM peak hour. For traffic from the westbound approach, it is difficult to find gaps to complete turning maneuvers.
- The intersection of Malcolm X Avenue SE and southbound South Capitol Street SE is one of two intersections at the diamond interchange of Malcolm X Avenue SE and South Capitol Street SE. They are controlled under one signal controller. This intersection approaches a LOS F condition during the PM peak hour. The key issue is the southbound approach from the South Capitol Street SE off-ramp where 465 left-turn vehicles are mixed with 255 through vehicles and 185 right-turn vehicles. After turning onto Malcolm X Avenue SE, most southbound left-turn vehicles must immediately stop at the northbound South Capitol Street SE intersection due to the concurrent phasing of the southbound off-ramp (phase 4) and northbound on-ramp (phase 7). In addition, the two intersections are less than 80 feet apart, which provides little storage space for queuing and greatly limits the capacity for southbound left-turn movements.

- The intersection of Martin Luther King Jr. Avenue SE and South Capitol Street SE/Halley Place SE operates at LOS F in the PM peak hour for similar reasons as the AM peak hour. The mirror movement, eastbound right-turn movement from South Capitol Street SE, carries 1,580 vehicles per hour, operating over capacity.

Existing Freeway Operation

A detailed discussion of the VISSIM model development and validation process, as well as freeway existing conditions results, can be found in Chapter 4 of the TTR. The VISSIM freeway analysis confirmed that traffic speeds were lower, and densities were higher, in the peak travel direction. Most I-295 freeway segments operate at LOS E or F in the northbound direction into downtown DC during the AM peak hour; almost all freeway segments operate at LOS F heading southbound out of the downtown area during the PM peak period.

AM Peak Hour

Traveling northbound on I-295 in the AM peak hour, segments south of the South Capitol Street SE on-ramp operate at LOS E and LOS F due to short merge taper lengths at the Chesapeake Street SW on-ramp and mainline capacity constraints. Operations improve north of the South Capitol Street SE on-ramp but continuously deteriorate to LOS E and LOS F immediately north of the Malcolm X Avenue SE interchange due to heavy weaving traffic streams between Suitland Parkway interchange and ramps to Martin Luther King Jr. Avenue SE, DC 295, and the 11th Street Bridge as well as congestions spillback from I-695.

In the southbound direction, all freeway segments operate at LOS D or better with no obvious bottlenecks in the AM peak hour.

PM Peak Hour

In the PM peak hour, the outbound movement faces a severe level of congestion, starting from the southbound I-295 project limits and extending to the northern study limits. Southbound freeway congestion starts south of the Transportation Study Area, from the interchange with I-495. This congestion spills back into the Transportation Study Area and further extends north due to heavy traffic through mainlines and at most on- and off-ramps. Almost the entire southbound I-295 corridor within the Transportation Study Area operates at LOS F in the PM peak hour.

Northbound freeway segments operate at LOS D or better south of the Howard Road SE off-ramp. However, the weaving condition between Suitland Parkway/Howard Road SE on-ramps and Martin Luther King Jr. Avenue SE off-ramp, as well as the diverging condition to DC 295 and the 11th

Street Bridge, result in severe congestion and a LOS F condition along northbound freeway segments in the north portion of the Transportation Study Area.

Existing Arterial Operations

A detailed discussion of the VISSIM model development and validation process as well as arterial existing conditions results can be found in Chapter 4 of the TTR in Appendix D. The results of the VISSIM models along four key arterials within the Transportation Study Area (Martin Luther King Jr. Avenue SE, Firth Sterling Avenue SE, South Capitol Street SE, and Suitland Parkway) are summarized below.

AM Peak Hour

Six of eight arterials/directions operate at an acceptable LOS (D or better) during the AM peak hour. Northbound South Capitol Street SE and westbound Suitland Parkway operate at LOS E. Both are key routes feeding into the Frederick Douglass Memorial Bridge and carry heavy inbound traffic to downtown DC during the AM peak hour. The reversed directions of both corridors as well as Martin Luther Jr. Avenue SE and Firth Sterling Avenue SE operate at LOS C or better.

PM Peak Hour

During the PM peak hour, the peak directions on South Capitol Street SE and Suitland Parkway reverse. Southbound South Capitol Street SE and eastbound Suitland Parkway operate at LOS E due to heavy outbound traffic from downtown DC. The remaining six corridors/directions operate at LOS D or better.

3.8 Utilities

Utilities discussed in the following sections may be impacted by the implementation of Master Plan Amendment 2 and therefore warrant further analysis.

3.8.1 Electrical Service

The Potomac Electric Power Company (PEPCO) provides electricity to approximately 883,000 customers in Maryland and the District of Columbia (PEPCO, 2019). Electricity service is provided to the West Campus through high-voltage feeders located along I-295 and Martin Luther King Jr. Avenue SE. All service lines, transformers, and other distribution equipment on the West Campus are owned by GSA.

3.8.2 Natural Gas Service

Washington Gas provides natural gas service to more than 1 million residential, commercial, and industrial customers throughout the District of Columbia and the surrounding region (Washington Gas, 2019). Natural gas is provided through a network of underground conduits fed through large, high-pressure transmission lines (GSA, 2008a). Natural gas lines are present throughout the West Campus and service the CUP.

3.8.3 Water Service

Water is supplied to the West Campus from the District of Columbia Water and Sewer Authority (DC Water). A 30-inch water main along I-295, in the Low Service Area, supplies the primary source of potable water to the West Campus by two 16-inch service taps to the pump station located adjacent to Sweetgum Lane.

Treated water storage in the Low Service Area is provided by DC Water's Brentwood Reservoir and water is supplied from the Washington Aqueduct's Dalecarlia Pumping Station and DC Water's Bryant Street Pumping Station (DC Water, 2017). DC Water installed a new elevated water storage tower on the East Campus in 2018. This tower was designed to improve water quality, system reliability, and water pressure, and ensure adequate flows throughout the system within the vicinity of the West Campus (DC Water, 2019a).

In addition, water service is supplied to the West Campus from a 12-inch lateral off the 20-inch water main along Martin Luther King Jr. Avenue SE within the Anacostia Second High Service Area. Treated water storage in the Anacostia Second High Service Area is provided by DC Water's Good Hope Road Elevated Tank and the Boulevard Elevated Tank, and is supplied from DC Water's Anacostia Pumping Station, which draws water from the Low Service Area (DC Water, 2017).

3.8.4 Sanitary Sewer System

Sanitary sewage from the West Campus flows west towards DC Water's existing sewer lines near South Capitol Street SE and I-295. A 36-inch sanitary sewer connects the West Campus to a combined 8-foot-4-inch x 9-foot-4-inch storm and sanitary sewer system that drains to the Blue Plains Advanced Wastewater Treatment Plant (GSA, 2008a).

Existing infrastructure on the West Campus is very old in some places, using terra cotta pipe systems. When portions of the sanitary sewer system were replaced in 1972, newer vitrified clay pipes may have been used that included flexible compression joints (to help avoid infiltration). The fragile material of clay pipe presents a problem with breakage during construction; problems occur with root intrusions and breakage can cause water infiltration in sanitary sewer systems (GSA, 2008a).

3.8.5 Solid Waste Management

Solid waste on the West Campus is collected and disposed of by a private property management company. The West Campus generates approximately 218 tons of non-construction solid waste per year. Waste from the West Campus is collected and transported to Recycle One, a recovery facility in Hyattsville, Maryland, where recyclable and non-recyclable materials are sorted and processed. Recycle One processes approximately 165 tons of recyclable waste per year from the West Campus, and approximately 53 tons per year of non-recyclable waste is transferred to the Covanta Waste to Energy plant in Alexandria, Virginia, which handles approximately 356,000 tons of waste per year (GSA, 2019a; Covanta, 2019).

3.9 Environmental Contamination

Environmental contamination discussed in the following sections may be impacted by the implementation of Master Plan Amendment 2 and therefore warrant further analysis.

3.9.1 Recognized Environmental Conditions

Previous activities on the West Campus have required the use, handling, or storage of hazardous materials. These activities included (but were not limited to): medical uses (including operating rooms), furniture woodshops, vehicle maintenance, coal ash disposal, laundry/dry cleaning operations, and landfilling. Various investigations have been performed to locate areas where hazardous materials may exist and characterize potential contaminants. These investigations are summarized in a 2007 Environmental Contamination Technical Report (G&O, 2007). Key findings from this report relative to the plateau and Sweetgum Lane sites are summarized below.

Leaking Underground Storage Tanks

According to the DC Department of Health (DOH), one 3,000-gallon underground storage tank (UST) and two 20,000-gallon USTs were previously located on the West Campus and were removed at an unknown date (Figure 3-23) (G&O, 2007). DC DOH records indicate that soil contamination was discovered during the removal of both USTs and was removed for proper disposal. Soil sampling in the area of the USTs has confirmed the area is free from contamination (G&O, 2007). Neither of the former USTs were located within the Sweetgum Lane or plateau sites.

During a Phase I Environmental Site Assessment (ESA) performed in 2000, no evidence of existing USTs was noted (ECC, 2000). No known USTs have been installed on the West Campus since that time.

Above Ground Storage Tanks

The Phase I ESA documented 18 above ground storage tanks (ASTs) on the West Campus (ECC, 2000). Most of the ASTs were observed to be in dikes; however, many of the dikes contained floor drains, and the Phase I ESA was not able to identify the effluent points of the drains (G&O, 2007).

Documented Soil, Surface Water, and Groundwater Contamination

Hazardous materials associated with previous activities on the West Campus include volatile and semi-volatile organic compounds (VOCs and SVOCs), petroleum, lead, barium, biohazardous waste, and mercury. VOCs, SVOCs, lead, barium, and petroleum, have been identified in soil samples on the West Campus. No due diligence documentation that has been performed to date has indicated the presence of biohazardous waste (G&O, 2007).

Previous studies and extensive testing have identified multiple areas of soil, surface water, and groundwater contamination on the West Campus as a result of previous activities on the site. Contamination was identified in the vicinity of Buildings 49, 56, and 52, which are adjacent to the plateau site (Figure 3-23). Contaminants included petroleum hydrocarbons, SVOCs, lead, and barium. The full geographical extent of this contamination has not been mapped. In 2003 and 2005, GSA removed soils contaminated by petroleum hydrocarbons in areas where it was determined that the contamination was a threat to human health; however, this remediation did not occur within either the plateau or Sweetgum Lane sites (G&O, 2007). No additional remediation of soil contaminants has occurred on the West Campus or within the plateau or Sweetgum Lane sites (GSA, 2019a).

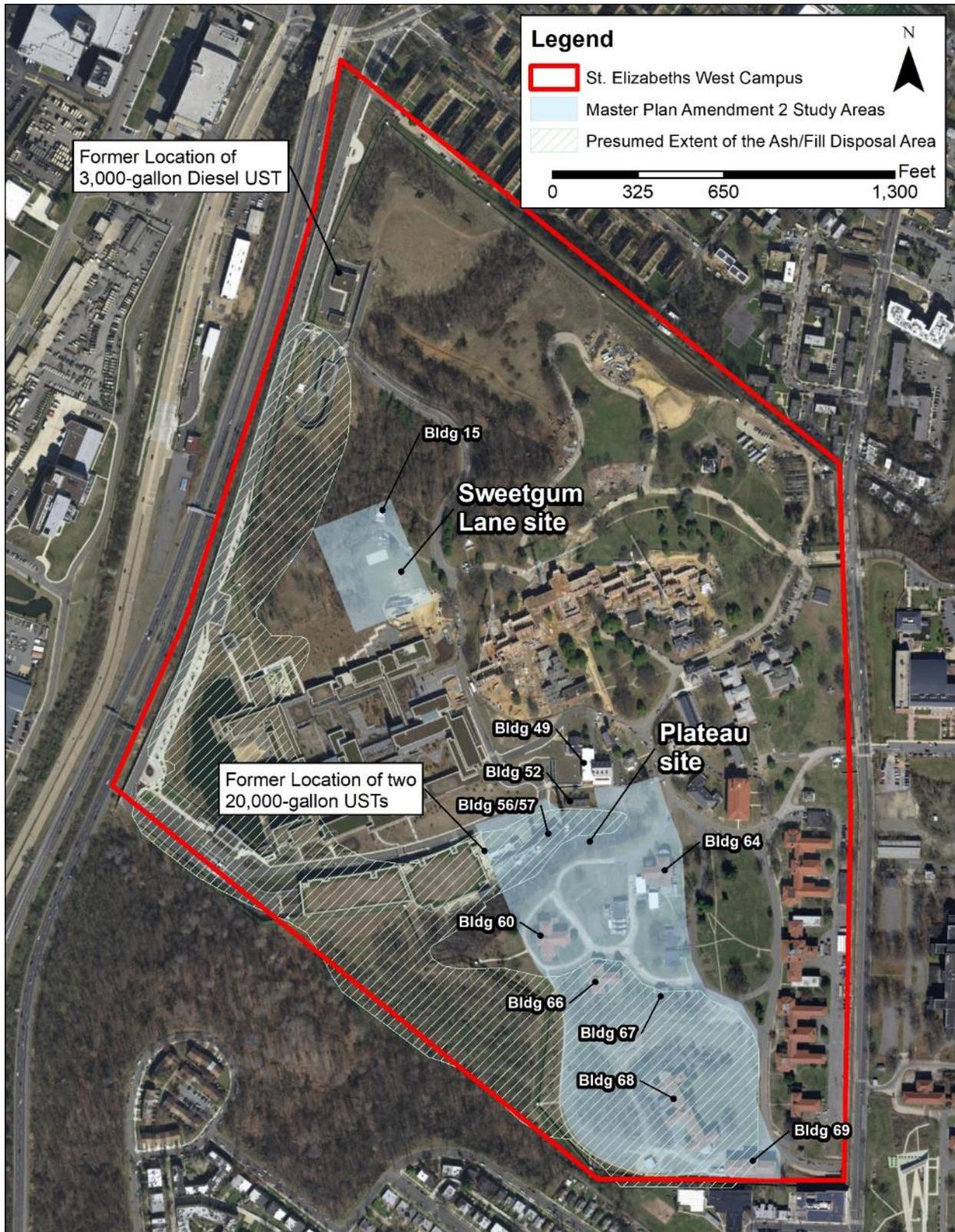
Through historic research, evidence of landfilling activities was identified on the West Campus, which previously operated a power plant and incinerator (G&O, 2007). Hazardous materials generally associated with coal burning and disposal include fly ash and other metals. These materials contain chemicals that can be detrimental to human health including dioxins, furans, metals, and polycyclic aromatic hydrocarbons (PAH). Previous studies identified an area where fly ash was suspected to be dumped on the West Campus and depth of fly ash fill was estimated to be up to 60 feet deep in some areas of the West Campus. Portions of the fly ash fill area are within the plateau site as shown in Figure 3-23 (G&O, 2007; Haley & Aldrich, 2016). GSA has undertaken significant investigations to further delineate and characterize the extent of fly ash and potential associated contamination. As a result of these efforts, GSA prepared a Human Health Risk Assessment to evaluate the potential carcinogenic and non-carcinogenic risk to the following potentially exposed populations: onsite and offsite workers, visitors, construction workers, onsite daycare children, offsite adult and child residents, and offsite youth visitors (G&O, 2008).

The Human Health Risk Assessment determined that dioxins and furans found onsite did not pose a significant incremental risk to the onsite or offsite populations evaluated when compared to typical background exposure to these chemicals. Therefore, no remedial actions were recommended for exposure to dioxins and furans. The Risk Assessment determined that the presence of lead did pose an elevated risk of exposure to onsite construction workers.

It did not identify an elevated risk for offsite populations. It was determined that this risk would be managed by onsite engineering controls during construction and did not constitute remedial activities. Finally, the Risk Assessment determined that the presence of PAHs could pose some level of risk for onsite construction workers in a specific portion of the fly ash disposal area due to a “hot spot.” It was determined that this risk would be managed by onsite engineering controls during construction and did not constitute remedial activities (G&O, 2008).

3.9.2 Other Hazardous Materials

In 2006, Tidewater, Inc. conducted building surveys for lead, asbestos, mercury, and polychlorinated biphenyls (PCBs). Survey results from buildings in the plateau site are summarized in Table 3-28 through Table 3-31. Abatement of hazardous materials in West Campus buildings is being conducted as buildings are renovated or demolished (GSA, 2019a). Building 15 on the Sweetgum Lane site was not surveyed. However, it was constructed in the same year (1924) and is nearly identical to Building 67 (both former Staff Residences), which was surveyed and is located on the plateau site. Therefore, it can be assumed that similar hazardous materials can be found within Building 15.



Source: G&O, 2007

Figure 3-23 Contamination Areas on the West Campus

Table 3-28 Lead-Based Paint Survey Results

Building No./Name	Date Inspected	Lead-Based Paint Identified
Nos. 56 & 57 Power Plant	May 2006	Concrete walls; brick walls and beams; metal handrails, stair components, columns, beams, door components, pipes, aboveground storage tanks, window components, 4" posts, garage doors, and ladders; wooden window components and door components; and cinderblock walls Ceramic wall tiles and ceramic baseboard tiles tested positive for lead (coating)
Building No. 60 J Building	August 2006	Plaster walls, columns, and ceilings; wooden window components, columns, ceilings, and rail caps; and metal stair components, columns, entry doors, handrails, and fire escape components
Building No. 64 L Building	May 2006	Plaster walls and ceilings; metal stair components and radiators; and wooden window wells and chair rails
Building No. 66 K Building	May 2006	Plaster walls; metal radiators, balusters, stair components (interior and exterior); wooden crown molding and columns; fireplace trim; and security screens on the porch
Building No. 67 Staff Residence No. 5	October 2006	Wooden cabinets, window components, door components, fireplace mantels, walls, trim, ceilings, floors, and thresholds; concrete columns; plaster walls; ceramic bases; drywall walls; and metal radiators and siding
Building No. 68 Q Building	August 2006	Plaster walls, ceilings, and columns; wooden baseboards and window components; metal radiators and radiator covers, diffuser covers, stair components, columns, partition walls, handrails, fire escapes, loading docks, and security screens; brick walls; and concrete windowsills Ceramic wall tiles tested positive for lead (coating)

Source: G&O, 2007

Table 3-29 Asbestos Containing Materials (ACM) Survey Results

Building No./Name	Date Inspected	ACM(s) Identified
Nos. 56 & 57 Power Plant	May 2006	12x12 floor tile, bulletin board mastic, and fire doors
Building No. 60 J Building	August 2006	TSI (Thermal System Insulation) debris and 9x9 floor tile
Building No. 66 K Building	May 2006	Air-cell pipe insulation, block pipe insulation, mudded pipe fittings, 9x9 floor tile, 12x12 floor tile (and associated mastic), TSI debris, chalkboard mastic, and fire doors
Building No. 67 Staff Residence No. 5	October 2006	9x9 floor tile, linoleum floor sheeting (and associated mastic), air-cell pipe insulation, blown-in insulation (and associated overspray), and TSI debris
Building No. 68 Q Building	August 2006	9x9 floor tile, 12x12 floor tile mastic, tile grout (yellow wall tile), cove base mastic, fire doors, and TSI debris

Source: G&O, 2007

Table 3-30 Mercury Survey Results

Building No./Name	Date Inspected	Mercury-Containing Materials Identified
Nos. 56 & 57 Power Plant	May 2006	154 fluorescent lamps 30 mercury switches
Building No. 60 J Building	August 2006	196 fluorescent lamps
Building No. 64 L Building	May 2006	422 fluorescent lamps
Building No. 66 K Building	May 2006	265 fluorescent lamps
Building No. 67 Staff Residence No. 5	October 2006	26 fluorescent lamps
Building No. 68 Q Building	August 2006	1,140 fluorescent lamps

Source: G&O, 2007

Table 3-31 PCB Survey Results

Building No./Name	Date Inspected	PCB-Containing Materials Identified
Nos. 56 & 57 Power Plant	May 2006	86 potentially PCB-containing fluorescent ballasts
Building No. 60 J Building	August 2006	98 potentially PCB-containing fluorescent ballasts
Building No. 64 L Building	May 2006	211 potentially PCB-containing fluorescent ballasts
Building No. 66 K Building	May 2006	133 potentially PCB-containing fluorescent ballasts
Building No. 67 Staff Residence No. 5	October 2006	13 potentially PCB-containing fluorescent ballasts
Building No. 68 Q Building	August 2006	563 potentially PCB-containing fluorescent ballasts

Source: G&O, 2007

Radioactive Materials

Some exit signs and smoke detectors contain radioactive substances (e.g., Tritium and Americium, respectively). These common items can likely be found throughout the West Campus and should be assumed to contain radioactive materials (GSA, 2008a).

Ozone-Depleting Substances

Cooling systems such as air conditioning and refrigeration units commonly use Chlorofluorocarbons (CFC) and HCFC as refrigerants to general cool temperatures. These substances are classified as ozone-depleting substances (ODS). Their use and disposal are regulated by the Toxic Substances Control Act (TSCA). These common items can likely be found in unrenovated buildings throughout the West Campus and should be assumed to contain ODS (GSA, 2008a).

Agricultural/Farming Activities

Studies indicate that previous activities at the site have included farming/agriculture. Hazardous materials typically associated with farming and agriculture include pesticides and herbicides. Detailed information regarding the nature and location of chemicals used is not available, and, therefore, the use or storage of these chemicals at this site cannot be ruled out (GSA, 2008a).

Leaking Fuel and Sump Pumps

Previous investigations have identified leaking fuel pumps and sump pumps in the vicinity of Building 56, which is located within the plateau site (G&O, 2007).

Biological Hazards

Animal intrusions into the buildings on the West Campus may have occurred over the years. Feces from various animal intrusions (e.g., rodents, pigeons) may be present in buildings and can pose a biological hazard to humans (GSA, 2008a).

Mold

Evidence of water intrusion has been observed in both historical photographs and limited site observations. Mold has been observed within some buildings on the West Campus (GSA, 2008a).

Unidentified Materials

Due to the apparent abrupt nature of the closure of this facility, it is possible that unidentified hazardous materials or regulated materials remain in onsite structures (GSA, 2008a).

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4. Environmental Consequences

This chapter analyzes reasonably foreseeable, direct, indirect, and cumulative environmental impacts associated with each of the Master Plan Amendment 2 alternatives (action alternatives), as well as the No Action Alternative.

4.1 IMPACT ANALYSIS

This chapter includes an analysis of direct, indirect, and cumulative environmental impacts.

Direct impacts are caused by the proposed action and occur at the same time and place.

For example, the demolition of historic buildings to allow for the construction of new buildings would be a direct impact on cultural resources. Indirect impacts are caused by the proposed action and occur later in time or are farther removed in distance but are still reasonably foreseeable.

An example of an indirect impact would be increased stormwater runoff in the future due to the proposed action's addition of impervious surface. Cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over time (40 CFR 1508.7–1508.8). An example of a cumulative impact is an increase in vehicular emissions from traffic generated by multiple developments in an area resulting in significant deterioration of air quality.

Potential impacts are described in terms of intensity, type, duration, and context (Table 4-1).

Definitions for intensity thresholds for specific resources are provided in each section of this chapter. At the end of each resource area impact analysis, there is a discussion of measures that GSA would implement to minimize and mitigate impacts.

Table 4-1 Impact Intensity Thresholds

Impact Description	Definition
Intensity	<p>Negligible: The impact is not measurable or discernable from current conditions</p> <p>Minor: The impact slight but detectable</p> <p>Moderate: The impact is readily apparent, and there would be a noticeable change from current conditions</p> <p>Major: The impact is severe, significant, and highly noticeable. Major impacts may be above a threshold of significance</p>
Geographic Context	<p>Site-specific: Impacts are limited to the West Campus</p> <p>Local: Impacts extend beyond the West Campus and affect the area within the general vicinity of the West Campus</p> <p>Regional: Impacts affect a larger area such as the Anacostia area or the National Capital Region</p>
Duration	<p>Short-term: Temporary, lasting less than 1 year</p> <p>Long-term: Lasting 1 or more years after construction</p>

4.2 NATURAL RESOURCES

4.2.1 Geology, Topography, and Soils

Assessment Methodology

Impacts to geology, topography, and soils were analyzed based on the soil characteristics and current conditions of the study areas in comparison with site conditions to be expected following construction. Ground disturbance and soil excavation were estimated using geographic information systems (GIS) to measure the footprint of proposed demolition and new construction.

The impact thresholds for geology, topography, and soils are provided in Table 4-2.

Table 4-2 Impact Intensity Thresholds for Geology, Topography, and Soils

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes to geology, topography, or soils from clearing, grading, and excavation	Drilling or anchoring into bedrock for construction of underground structures Slight but detectable changes to topography from site grading Slight but detectable soil disturbance from clearing, grading, and excavation Risk of soil erosion during construction that could be controlled with sediment and erosion control measures Minimal risk of slope failure or erosion from disturbance of steep slopes	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable/severe damage to or destruction of geologic formations Widespread and permanent alteration of topography Highly noticeable excavation of soils that would have severe effects on natural ecosystems Severe risk of slope failure or erosion from disturbance of steep slopes
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites) with high probability of Campus-wide or Regional (i.e., beyond the West Campus) impacts	Localized (i.e., confined to the project sites) with high probability of Campus-wide or Regional (i.e., beyond the West Campus) impacts
Duration	Temporary, lasting only through construction	Temporary, lasting only through construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

No changes in geology are anticipated under the No Action Alternative, and there would be no direct impacts to underlying bedrock geology. As the plateau site is relatively flat, the change in topography from grading and construction activities would be non-discernable, resulting in direct, long-term, negligible, adverse impacts.

Clearing, grading, and excavation of soils would be required for the construction of the proposed buildings on the plateau site under the No Action Alternative. Grading of soils would be required for the construction of new sidewalks around and between the proposed buildings. To install power and communication lines and other utilities, trenching of soils would be required to place lines underground. Landscaping activities would create additional soil disturbance.

There would be approximately 6 acres of ground disturbance under the No Action Alternative from clearing, grading, and excavating of soils for the construction of buildings and sidewalks and the trenching of soils for utilities on the plateau site (Table 4-3). Below-grade construction would result in the removal of approximately 126,000 cubic yards (cy) of soils on the plateau site, approximately 9,000 to 12,000 dump truck loads (Lynch, 2020). However, as noted in Sections 4.2.2, 4.2.3, and 4.2.4, removal of soils is not anticipated to have severe impacts on ecosystem functions.

Construction would occur on less than 0.1 acres of land with slopes greater than 15 percent. No construction would occur in areas with soils designated as having a severe erosion hazard. Prior to construction, site-specific geotechnical investigations would be conducted to determine if Potomac Group deposits, which pose a risk for slope failure and erosion, are present. If found, these deposits would be assessed for their potential to impact the below-grade construction from shrinking or swelling. Additional soils may need to be removed to construct stable foundations and to provide appropriate soil stability.

As there would be limited development in areas with steep slopes and no construction in areas containing soils with a severe erosion hazard, there would be direct, long-term, negligible, adverse impacts on soil erosion from construction activities.

Indirect Impacts

No indirect impacts to bedrock geology or topography would occur.

Under the No Action Alternative, construction, vegetation clearing, grading, and other ground-disturbing activities would increase the potential for erosion of soils and fly ash. Erosion and sediment controls would be needed to contain erodible materials within construction sites until vegetation can be re-established to stabilize soils. With implementation of these controls, there would be an indirect, minor, adverse impact to soils.

No actions would be taken to prevent further erosion in the ravine, and there would be a substantial risk of future slope failure resulting in an indirect, long-term, major, adverse impact.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

No changes in bedrock geology are anticipated under Alternatives A and B. As the Sweetgum Lane site is relatively flat, there would be little change in topography from construction. Most of the plateau site is relatively flat as well; however, construction of the pedestrian connection from the bottom to the top of the ravine would reduce the existing slope in that area. This change would be slight, but detectable resulting in a long-term, minor, adverse impact to topography.

Clearing, grading, and excavation of soils would be required for the construction of the proposed buildings and parking structures under Alternatives A and B. Grading of soils would be required for the construction of new sidewalks around and between the proposed buildings, a shuttle bus hub, and the proposed pathway from the plateau to Buildings 56 and 57. To install power and communication lines and other utilities, trenching of soils would be required to place lines underground. Landscaping activities would create additional disturbance of soils as vegetation is planted. Other planned elements of the action alternatives, such as shipping and receiving areas, would be integrated into the design of the buildings and would not result in additional impacts to soils.

Demolition of buildings under Alternatives A and B would disturb approximately 1 acre of soils. Construction would result in approximately 8 acres of ground disturbance under Alternative A and approximately 9 acres of ground disturbance under Alternative B (Table 4-3). Under Alternatives A and B, below-grade construction of Building C1 on the Sweetgum Lane site would result in the removal of approximately 60,000 cy of soil. Construction within the ravine would require the removal of approximately 23,000 cy of soil under Alternative A and 22,000 cy of soil under Alternative B. As noted in Sections 4.2.2, 4.2.3, and 4.2.4, removal of soils is not anticipated to have severe impacts on ecosystem functions.

Under the Alternatives A and B, construction would occur on approximately 0.5 acres of land with slopes greater than 8 percent, resulting in possible soil erosion. Additionally, Alternatives A and B would impact 0.5 acres of Sassafras gravelly sandy loam (15 to 40 percent slopes) which has a severe erosion hazard. Mitigation measures would be required to stabilize slopes during construction. After construction, the new buildings and retaining walls, if needed, would minimize the potential for future erosion and slope failure. Prior to construction, site-specific geotechnical investigations would be conducted to determine if Potomac Group deposits are present; if found, these deposits would be assessed for their potential to impact the below-grade construction from shrinking or swelling.

Additional soils may need to be removed to construct a stable foundation and to provide appropriate soil stability.

With implementation of mitigation measures, as described below, for construction on steep slopes and in areas containing soils with a severe erosion hazard, there would be direct, long-term, moderate, adverse impacts due to soil erosion and risk of slope failure.

Table 4-3 Acres of Soils Disturbed^a

Soil Type	Construction No Action Alternative	Construction Alternative A	Construction Alternative B	Demolition Alternatives A and B
Beltsville-Urban Land complex (0 to 8 percent slopes)	2	2	3	0.5
Croom-Urban Land complex (8 to 15 percent slopes)	0	0.5	0.5	<0.1
Matapeake-Urban Land complex (0 to 8 percent slopes)	0	1	1	0
Sassafras gravelly sandy loam (15 to 40 percent slopes)	<0.1	0.5	0.5	0
Udorthents	<0.1	0	0	0
Urban Land	0	0	0	<0.1
Fly Ash ^b	4	4	4	0.5
Total Soil Disturbance	6	8	9	1

Notes:

- a. Impacts based on concept level plans. Actual acreage disturbed would be determined through final building design.
- b. Fly ash is not a recognized soil type in the USDA NRCS soil survey. However, natural soils on the West Campus have been covered by fly ash in some areas. This measurement applies to the areas with fly ash fill under each alternative.

Indirect Impacts

No indirect impacts to bedrock geology would occur.

Under Alternatives A and B, construction, demolition, vegetation clearing, grading, and other ground-disturbing activities would increase the potential for erosion of soil and fly ash. Erosion and sediment controls would be needed to contain erodible materials within construction sites until vegetation can be re-established to stabilize soils. With implementation of these controls, there would be an indirect, minor, adverse impact to soils.

Construction within areas of steep slopes could lead to destabilized slopes that in turn could lead to a risk of future soil erosion; however, under Alternatives A and B, buildings constructed in the ravine would be stepped down the steep slope to minimize impacts to topography and to stabilize

the slope. Additionally, the proposed pathway from the plateau to the power plant would be designed to prevent erosion.

Landscaping and the stabilization of steep slopes are proposed under both Alternatives A and B. These measures would reduce the potential for slope failure in the ravine and limit soil erosion resulting in beneficial impacts to topography and soils.

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, erosion and sediment controls would be employed as a best practice during demolition and construction where ground-disturbing activities occur. These controls would minimize impacts to surface water from sedimentation and other pollutants by containing erodible materials within the limits of construction. Containment methods may include, but are not limited to, silt fencing, dewatering filter bags, diversion channels or berms, temporary stormwater basins or sediment traps, temporary inlet protection, stabilized construction entrances, and vegetation stabilization.

Buildings would be structurally engineered to mitigate the presence of Potomac Group deposits with the potential for shrinking or swelling.

Prior to construction, GSA would follow best practices by obtaining all necessary permits and complying with the requirements and guidelines set forth in those permits to minimize adverse impacts. Erosion and sediment control plans would be developed in accordance with DOEE requirements and would be submitted to DOEE for approval. Construction contractors would be required to implement and maintain these erosion and sediment control measures until construction is complete and vegetation has been established.

GSA may also provide mitigation by contracting an environmental monitor (EM), separate from the construction contractor, to verify that construction complies with all terms and conditions of the permits and approvals. The EM would inspect erosion and sediment control devices to ensure they are being sufficiently maintained and are effective, in addition to other identified responsibilities. The EM would report deficiencies to the contractor, GSA, and regulatory agencies, if required, and support efforts to resolve issues in a timely manner.

When construction is complete, exposed soils would be landscaped to mitigate future soil erosion.

Slope stabilization measures such as closely spaced drilled piers would be utilized for construction on steep slopes to mitigate for possible future slope failure. Retaining walls may also be used to stabilize slopes.

4.2.2 Groundwater

Assessment Methodology

Impacts to groundwater were analyzed based on the groundwater characteristics and current conditions of the study areas in comparison with site conditions to be expected following construction. The existing depth of perched and naturally occurring groundwater was compared to the proposed depth of new construction. Lastly, the change in impervious surface was calculated using GIS to measure the footprint of existing impervious surface and the footprint of proposed demolition and new construction.

The impact thresholds for groundwater are provided in Table 4-4.

Table 4-4 Impact Intensity Thresholds for Groundwater

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable potential for perched groundwater intrusion into building Non-discernable changes to groundwater levels	Slight, but detectable potential for perched groundwater intrusion into buildings that could be mitigated through building design Slight, but detectable impacts to groundwater levels No violations of water regulations	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Measurable/severe increases in the potential for perched groundwater intrusion into buildings that cannot be mitigated through building design Measurable/severe impacts to groundwater levels that are widespread and or long-term Violation of water regulations
Geographic Context	Localized (i.e., confined to the project sites)	Watershed or subwatershed	Watershed or multiple watersheds	Watershed or multiple watersheds
Duration	Temporary, lasting only through construction	Temporary, lasting only through construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Construction of below-grade portions of proposed buildings on the plateau site could intercept the perched groundwater table. The proposed construction under the No Action Alternative is not expected to intercept the naturally occurring groundwater table, which is roughly 107 feet below the ground surface (Haley & Aldrich, 2016). If the perched groundwater table is intercepted, it may result in the release of groundwater and a reduction in groundwater levels; however, it would not

affect naturally occurring groundwater levels. There would be the potential for intrusion of groundwater from the perched groundwater table into the underground areas of the buildings.

The No Action Alternative would result in a direct, long-term, minor, adverse impact to groundwater because construction of underground portions of the buildings could intercept the perched groundwater table but would not affect naturally occurring groundwater levels. With implementation of appropriate building design and construction as described in the mitigation section below, there would be long-term, minor, adverse impacts to buildings from potential groundwater infiltration.

Indirect Impacts

Under the No Action Alternative, the addition of buildings and associated sidewalks would increase impervious surface as shown in Table 4-5. There would be no increase in impervious surface on the Sweetgum Lane site. Increasing impervious surfaces within the plateau site would reduce the available area for groundwater recharge; however, the increase would be a small percentage of the impervious surface in the Lower Anacostia River Watershed and would not noticeably affect the overall groundwater recharge within the subwatershed. The No Action Alternative would include the installation of landscaped areas that would provide pervious surfaces within the plateau site.

The No Action Alternative would result in indirect, long-term, minor, adverse impacts to groundwater as the increase in impervious surfaces would account for a small percentage of the impervious surface in the watershed and would have a slight, but detectable effect on groundwater recharge.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Demolition of buildings would not directly impact groundwater under Alternatives A and B. Construction of proposed Building A1 or Building B1 in the ravine, construction of Building C1 on the Sweetgum Lane site, and expansion of the planned below-grade parking garages near Gate 1 and Gate 2 along Martin Luther King Jr. Avenue SE could intercept with the perched groundwater table. Neither action alternative is expected to intercept the naturally occurring groundwater table, which is roughly 107 feet below the ground surface (Haley & Aldrich, 2016). If the perched groundwater table is intercepted, it may result in the release of groundwater and a reduction in groundwater levels; however, it would not affect naturally occurring groundwater levels. There would be the potential for intrusion of groundwater from the perched groundwater table into the underground areas of the buildings which could affect building operations.

Alternatives A and B would result in a direct, long-term, minor, adverse impact to groundwater because construction of underground portions of the buildings could intercept the perched groundwater table but would not affect naturally occurring groundwater levels. With implementation of appropriate building design and construction as described in the mitigation section below, there would be long-term, minor, adverse impacts to buildings from potential groundwater infiltration.

Indirect Impacts

Construction of new buildings, sidewalks, parking areas, and a shuttle hub would increase the impervious area within the plateau and Sweetgum Lane sites as shown in Table 4-5.

Increasing impervious surface within the plateau and Sweetgum Lane sites would reduce the available area for groundwater recharge; however, the increase would be a small percentage of the impervious surfaces in the Lower Anacostia River Watershed and would not noticeably affect the overall groundwater recharge within the subwatershed. The additional elements proposed under Alternatives A and B, including shipping and receiving areas, would be incorporated in the proposed buildings and would not result in additional impervious surface. The action alternatives would include the installation of landscaped areas that would provide pervious surface within the plateau and Sweetgum Lane sites.

Alternatives A and B would result in indirect, long-term, minor, adverse impacts to groundwater as the increase in impervious surfaces would account for a small percentage of the impervious surface in the watershed and would have a slight, but detectable effect on groundwater recharge.

Table 4-5 Change in Impervious Surface

	No Action	Alternative A	Alternative B
Existing Impervious Surface – plateau site (acres)	7	7	7
Existing Impervious Surface – Sweetgum Lane site (acres)	0	0	0
Proposed Impervious Surface – Study Area (acres)	11	11	10
Impervious Surface increase – plateau site (acres)	+4	+3	+2
Impervious Surface increase – Sweetgum Lane site (acres)	+0	+1	+1
Total Net Change in Impervious Surface (acres)	+4	+4	+3
Percentage increase (Study Area)	57%	57%	43%
Percentage increase (Lower Anacostia River Watershed)	0.032%	0.032%	0.024%
Percentage increase (Anacostia River Watershed)	0.014%	0.014%	0.011%

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, the increase in impervious area could be mitigated with the use of green infrastructure and low impact development techniques that promote infiltration, including bioswales, rain gardens, and stormwater terraces. These measures would capture stormwater before it flows into storm sewers or streams and allow it to soak into the ground.

Several of the proposed buildings under the No Action Alternative and Alternatives A and B would be partially below ground. The underground portions of these buildings could reach a zone of perched groundwater, leading to the potential intrusion of groundwater into the buildings. As part of the building design process, geotechnical engineering would be undertaken as mitigation to verify stormwater and groundwater conditions on the building site, and buildings would be designed and constructed to mitigate for potential groundwater intrusion.

4.2.3 Surface Water

Assessment Methodology

Impacts to surface waters were analyzed based on the characteristics and current conditions of the study areas in comparison with site conditions to be expected following construction. The locations of surface waters, drainage areas in relation to proposed demolition and new construction, and changes in impervious surfaces were assessed.

The impact thresholds for surface water are provided in Table 4-6.

Table 4-6 Impact Intensity Thresholds for Surface Water

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes to water quality of streams or wetlands from construction related activities	Slight, but detectable impacts to water quality from construction-related activities or operation of facilities	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Severe degradation of water quality of streams and wetlands from sediment and pollutants from construction related activities or operation of facilities
	Non-discernable changes to stream stability or aquatic habitats from stormwater runoff from construction related activities	Slight, but detectable stream instability or degradation from stormwater runoff from construction related activities or from increases in impervious surface		Severe stream instability or degradation from increased volumes of stormwater runoff from construction related activities or from increases in impervious surface

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites) with high probability of impacts to the greater watershed	Localized (i.e., confined to the project sites) with high probability of impacts to the greater watershed
Duration	Temporary, lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

There are no streams or wetlands within the plateau and Sweetgum Lane sites. No streams or wetlands would be filled or altered under the No Action Alternative. Therefore, there would be no direct impacts to surface waters.

Indirect Impacts

Under the No Action Alternative, construction and other ground-disturbing activities would temporarily increase the potential for soil erosion and the discharge of sediment-laden stormwater water into the perennial stream along the southwest boundary of the West Campus and through storm sewers into the Anacostia River. Vegetation clearing and grading reduce soil stability and intensify erosional forces that increase stormwater runoff and associated sediment transport, especially on steep slopes like those within the West Campus, and lack of vegetative cover reduces the potential to filter sediments and other pollutants from stormwater (Purdue University, 2019).

As stormwater from the plateau site is collected by the existing system of storm drains, it is unlikely that large volumes of stormwater from the developed portions of the West Campus would reach the perennial stream and adjacent wetlands along the southwest property boundary. However, erosion and sediment controls would be needed to contain erodible materials within construction sites until permanent stormwater management measures are implemented and vegetation can be re-established to stabilize soils after construction is completed. Implementation of sediment and erosion controls, as described in the mitigation measures section below, would minimize stormwater runoff and potential water quality degradation of the perennial stream and Anacostia River from the West Campus development.

Therefore, with mitigation, the impacts to water quality from construction activities would not be discernable; therefore, the No Action Alternative would result in indirect, short-term, negligible, adverse impacts to water quality.

In the long-term, the addition of buildings, sidewalks, parking areas, and other impervious surface could result in indirect impacts to surface waters from an increase in stormwater runoff volume containing sediment and other pollutants into the Anacostia River through the storm drain system. Under the No Action Alternative, impervious surface area would increase at the plateau and Sweetgum Lane sites collectively by 57 percent, and by 0.032 percent within the subwatershed (Table 4-5). Implementation of permanent stormwater management controls, as described in the mitigation measures section below, would minimize stormwater runoff resulting in a non-discernable change to the water quality of the Anacostia River. Therefore, the No Action Alternative would have indirect, long-term, negligible, adverse impacts to surface waters.

No long-term impacts to the perennial stream and adjacent wetlands along the southwest property boundary are anticipated as stormwater from the plateau sites would be collected by the storm drain system or conveyed to the wet pond at the Munro Building or other permanent stormwater management facilities constructed for the West Campus development.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

There are no streams or wetlands within the plateau and Sweetgum Lane sites. No streams or wetlands would be filled or altered under Alternatives A and B. Therefore, there would be no direct impacts to surface waters.

Indirect Impacts

Under Alternatives A and B, construction and other ground-disturbing activities would temporarily increase the potential for soil erosion and the discharge of sediment-laden water into the perennial stream along the southwest boundary of the West Campus and through storm sewers into the Anacostia River. Vegetation clearing and grading reduces soil stability and intensifies erosional forces that increase stormwater runoff and associated sediment transport, especially on steep slopes like those within the West Campus; lack of vegetative cover reduces the potential to filter sediments and other pollutants from stormwater (Purdue University, 2019).

As stormwater from the Sweetgum Lane and plateau sites is collected by the existing system of storm drains, it is unlikely that large volumes of stormwater from the developed portions of the West Campus would reach the perennial stream and adjacent wetlands along the southwest property boundary. However, erosion and sediment controls would be needed to contain erodible materials within construction sites until permanent stormwater management measures are implemented and vegetation can be re-established to stabilize soils after construction is completed. Implementation of sediment and erosion controls, as described in the mitigation measures section below, would minimize stormwater runoff and potential water quality degradation of the perennial stream and Anacostia River from the West Campus development. Therefore, with mitigation, the impacts to water quality from construction activities would not be discernable; Alternatives A and B would result in indirect, short-term, negligible, adverse impacts to water quality.

In the long-term, the addition of buildings, sidewalks, parking areas, and other impervious surfaces could result in indirect impacts to surface waters from an increase in stormwater runoff volume containing sediment and other pollutants into the Anacostia River through the storm drain system. Under Alternatives A and B, impervious surface area would increase at the plateau and Sweetgum Lane sites collectively by 57 percent under Alternative A and 43 percent under Alternative B, and by 0.032 percent and 0.024 percent, respectively, within the subwatershed (Table 4-5). Without mitigation measures, the increase in impervious surfaces could result in increased stormwater flows, soil erosion, and water quality degradation. Implementation of permanent stormwater controls, as described in the mitigation measures section below, would minimize stormwater runoff and potential water quality degradation of the perennial stream and Anacostia River from the West Campus development. Specific stormwater controls may be needed to reduce runoff from the plateau into the ravine to reduce the potential for slope failure within the ravine as well as water infiltration into buildings. Therefore, with mitigation, the impacts to water quality from construction activities would not be discernable; therefore, Alternatives A and B would result in indirect, short-term, negligible, adverse impacts to water quality.

No long-term impacts to the perennial stream and adjacent wetlands along the southwest property boundary are anticipated as stormwater from the Sweetgum Lane and plateau sites would be collected by the storm drain system or conveyed to the wet pond at the Munro Building or other permanent stormwater management facilities constructed for the West Campus development.

Mitigation

Under the No Action Alternative and Alternatives A and B, erosion and sediment controls would be employed as a best practice during demolition and construction to minimize indirect impacts to surface water from sedimentation and other pollutants by containing erodible materials within the

limits of construction. Containment methods may include, but are not limited to, silt fencing, dewatering filter bags, diversion channels or berms, temporary stormwater basins or sediment traps, temporary inlet protection, stabilized construction entrances, and vegetation stabilization.

Prior to construction, GSA would follow best practices by obtaining all necessary permits and complying with the requirements and guidelines set forth in those permits to minimize adverse impacts. Stormwater management plans would be prepared in accordance with the *St. Elizabeths Utility Integration Plan Overall Stormwater Program* and approved by DOEE prior to implementation, and NPDES permit coverage for stormwater discharges under the EPA Construction General Permit would be obtained. Erosion and sediment control plans would be developed in accordance with DOEE requirements and also submitted to DOEE for approval. Construction contractors would be required to implement and maintain these erosion and sediment control measures until construction is complete, vegetation has been established, and permanent stormwater controls are in place. Implementation of permanent controls for stormwater quantity and quality outlined in the *St. Elizabeths Utility Integration Plan Overall Stormwater Program*, including stormwater retention ponds, green roofs, infiltration/bioretenion practices, and water quality inlets, would help contain sediment and other materials to minimize long-term impacts to water quality (GA, 2010).

GSA may also provide mitigation by contracting an EM, separate from the construction contractor, to verify that construction complies with all terms and conditions of the permits and approvals. The EM would inspect erosion and sediment control devices to ensure they are being sufficiently maintained and are effective, in addition to other identified responsibilities. The EM would report deficiencies to the contractor, GSA, and regulatory agencies, if required, and support efforts to resolve issues in a timely manner.

Indirect impacts to surface waters would be reduced over the long-term through the incorporation of onsite stormwater controls. Stormwater BMPs could include green infrastructure and low impact development techniques including bioswales, green roof systems, rain gardens, stormwater terraces, and water capture and reuse. Also, integrated pest management and turf maintenance practices may be used during landscaping to mitigate the long-term, indirect impacts to surface waters from pesticide and fertilizer applications used on landscaped areas.

4.2.4 Vegetation

Assessment Methodology

Impacts to vegetation were analyzed based on the characteristics and current conditions of the study areas in comparison with site conditions to be expected following construction. Vegetation removal

was assessed using GIS to overlay proposed new construction with mapping of existing specimen trees and existing forested and landscaped areas.

The impact thresholds for vegetation are provided in Table 4-7.

Table 4-7 Impact Intensity Thresholds for Vegetation

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	<p>Non-discernable changes to vegetation</p> <p>No specimen trees would be removed</p> <p>Habitat levels would remain consistent with current conditions</p> <p>Vegetative disturbance would not result in the proliferation of invasive species</p> <p>Fragmentation of vegetative cover types would not occur</p>	<p>Vegetation removal from the sites would be slight, but detectable and would consist largely of mowed lawn areas and minimal natural habitat</p> <p>A small percentage of specimen trees would be removed but most of the large trees on the site would remain with no loss of existing natural processes and ecosystem functions</p> <p>Establishment of invasive species that would be slight, but detectable</p> <p>Fragmentation of vegetative cover types would not occur</p>	<p>Effect that is potentially major but with best practices and mitigation measures is reduced below major</p>	<p>Removal of natural forest, open space or landscaping would be severe, resulting in a highly noticeable diminishment of existing natural processes and ecosystem functions</p> <p>Removal of specimen trees would result in a highly noticeable change to existing natural processes and ecosystem functions</p> <p>High probability to result in the proliferation of invasive species throughout the sites</p> <p>Fragmentation of vegetative cover types would occur that would inhibit existing natural processes and ecosystem functions</p>
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites) with high probability of Campus-wide impacts	Localized (i.e., confined to the project sites) with high probability of Campus-wide impacts
Duration	Temporary, lasting only through construction	Lasting 1 to 5 years after construction	Lasting 5+ years after construction and are not likely to be reversible	Lasting 5+ years after construction and are not likely to be reversible

No Action Alternative

Direct Impacts

Construction of the buildings, roads, and sidewalks on the plateau site would require the removal of approximately 3.5 acres of vegetation under the No Action Alternative. This includes approximately 1.5 acres (38 percent) of forests on the plateau site and approximately 2 acres of mowed areas. Construction would impact 7 of the 26 specimen trees on the plateau site (Table 4-8). There would be no impact to vegetation or specimen trees on the Sweetgum Lane site as no construction is proposed in that area under the No Action Alternative.

Although the No Action Alternative would result in the removal of vegetation, there would not be a fragmentation of forested areas. Fragmentation of the forest would affect its natural processes and functions such as providing natural habitat and facilitating the movement of forest species; fragmentation would also promote the spread of invasive species within the forested area. Trees removed during construction would be replaced; however, newly planted trees would take years to grow to the height and diameter of specimen trees impacted by the No Action Alternative. The removal of specimen trees would result in a diminishment of their functions within the local ecosystem such as serving as a sink for carbon dioxide, moderating climate through evapotranspiration, and providing natural habitat for animals.

The No Action Alternative would remove 27 percent of the specimen trees on the plateau site, resulting in a diminishment of natural processes and ecosystem functions. Replacement tree plantings would minimize impacts but would take years to reach maturity. Therefore, the No Action Alternative would have a direct, long-term, moderate, adverse impact to vegetation.

Indirect Impacts

After construction is complete, no further disturbance of vegetation is anticipated. Because fragmentation of forested areas, as shown in Figure 3-6, is not anticipated, the No Action Alternative would not accelerate the spread of invasive species. Therefore, no indirect impacts to vegetation are anticipated.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Construction of the buildings, roads, and sidewalks on the plateau site would require the removal of approximately 3 acres of vegetation from the plateau site. This includes approximately 1 acre (25 percent) of forested land on the plateau and approximately 2 acres of mowed lawn. Under Alternative A, construction would remove 9 of the 26 specimen trees on the plateau site. Within the

Sweetgum Lane site, construction under Alternative A would result in approximately 1 acre of vegetation impacts, to include approximately 0.5 acres (12 percent) of forests and approximately 0.5 acres of mowed lawn. No specimen trees are located within the Sweetgum Lane site (Table 4-8).

Construction under Alternative B would result in the removal of approximately 3 acres of vegetation from the plateau site. This includes approximately 1 acre (25 percent) of forested areas and approximately 2 acres of mowed areas. Alternative B would result in the removal of 9 of the 26 specimen trees within the plateau site. Impacts to vegetation under Alternative B within the Sweetgum Lane site would be the same as those under Alternative A (Table 4-8).

Table 4-8 Vegetation Removed by Alternative

	No Action	Alternative A	Alternative B
Forested Areas Plateau (acres)	1.5	1	1
Mowed Lawn Plateau (acres)	2	2	2
Forested Areas Sweetgum Lane (acres)	0	0.5	0.5
Mowed Lawn Sweetgum Lane (acres)	0	0.5	0.5
Specimen Trees Plateau	7	9	9
Specimen Trees Sweetgum Lane	0	0	0

Although Alternatives A and B would result in the removal of vegetation, there would not be a fragmentation of forested areas. Fragmentation of the forest would otherwise affect its natural processes and functions including providing suitable natural habitat and facilitating the movement of forest species; fragmentation would also promote the spread of invasive species within the forested area. As seen in Figure 3-5, there would still be large, contiguous areas of vegetation remaining under both Alternative A and Alternative B. Trees removed during construction would be replaced; however, newly planted trees would take years to grow to the height and diameter of specimen trees impacted by construction of Alternatives A and B. The removal of specimen trees would result in a diminishment of their functions within the local ecosystem such as serving as a sink for carbon dioxide, moderating climate through evapotranspiration, and providing natural habitat.

Alternatives A and B would each remove 35 percent of the specimen trees on the plateau site, resulting in a highly noticeable change, and the replacement trees would take years to reach the size of the existing trees. However, measures such as green roofs could mitigate for some of the lost natural processes and ecosystem functions. Therefore, the Alternatives A and B would have a direct, long-term, moderate, adverse impact to vegetation.

Indirect Impacts

After construction is complete, no further disturbance of vegetation is anticipated. Because fragmentation of forested areas, as shown in Figure 3-6, is not anticipated, the action alternatives would not accelerate the spread of invasive species. Therefore, no indirect impacts to vegetation are anticipated.

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, best practices would include clearing vegetation only as necessary and relegating parking and storage of construction vehicles and equipment to assigned staging areas. Temporary fencing would be placed around or beyond the drip line of remaining trees to protect roots from soil compaction. Buildings proposed for the sites may be designed with green roofs to mitigate the loss of function such as stormwater capture and habitat from the removal of vegetation. To mitigate for impacts, native vegetation would be planted, and trees would be replaced at a 3:1 ratio to allow for plant survival rates (GSA, 2018). Trees with a diameter larger than 36-inches will be replaced at a 5:1 ratio. Replacement tree size would have a minimum diameter of 2.5-inches. Tree protection measures would be implemented with new plantings to prevent deer browse. Additionally, removal of invasive species may function as a mitigation measure. GSA's Integrated Pest Management Program would be established to determine controls for the use of fertilizers, herbicides, and other chemicals used for landscaping.

4.25 Wildlife

Assessment Methodology

Impacts to wildlife were analyzed based on the characteristics and current conditions of the study areas, compared to site conditions anticipated following construction including changes in vegetation/wildlife habitat, increased site occupation, and increased traffic.

The impact thresholds for wildlife are provided in Table 4-9.

Table 4-9 Impact Intensity Thresholds for Wildlife

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes to native wildlife species, their habitat, or the natural processes sustaining them	Slight, but detectable effect on wildlife from temporary displacement during construction Habitat loss would be slight, but detectable and would not stress wildlife populations due to sufficient remaining habitat	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable mortality of wildlife or interference with activities necessary for their survival would occur Habitat loss would result in severe stress to wildlife populations
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Campus-wide or Regional (i.e., beyond the West Campus) impacts	Campus-wide or Regional (i.e., beyond the West Campus) impacts
Duration	Temporary, lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Construction of new buildings, parking areas, and associated sidewalks and utilities under the No Action Alternative would result in the removal of vegetated areas that serve as habitat for wildlife species within the plateau site. Trenching for utility installation would similarly disturb habitat. Large wildlife species currently utilizing the plateau such as raccoons, turkey, and white-tailed deer would be excluded from construction zones by construction fencing; however, it should be noted that white-tailed deer could jump fences and may become trapped within the construction zones. Smaller species, like the eastern gray squirrel and various birds, would move to other areas of the property during construction. Noise generated during construction would disturb wildlife. Once construction is completed, impacts from noise would greatly decrease. The Sweetgum Lane site would not be developed under the No Action Alternative. There would be a slight, but detectable, effect on wildlife from noise and displacement during construction, resulting in direct, short-term, minor, adverse impacts to wildlife.

Once construction is complete, there would be permanent removal of habitat where the buildings and other improvements have been constructed. Large animals such as turkey, raccoons, and white-tailed deer would be impacted more than small animals by the reduction of habitat due to their need for greater resources; however, the impacts are not expected to affect wildlife population levels due

to the presence of additional habitat within and adjacent to the West Campus. Smaller species would be able to use the remaining habitat within the sites to meet their requirements for living.

Additionally, landscaping included as part of design and tree replacement would replace habitat for smaller mammals and bird species. Although habitat loss would be measurable, construction and operation of new facilities and associated improvements would not affect the natural range of wildlife population levels. Therefore, the No Action Alternative would result in direct, long-term, minor, adverse impacts to wildlife from habitat loss.

Removal of forest could impact migratory birds that may be utilizing these areas as nesting or foraging habitat. There is similar habitat on Shepherd Parkway to the south of the West Campus that can be utilized by migratory birds. With mitigation measures described below, the No Action Alternative would have direct, short- and long-term, minor, adverse impacts on migratory birds from habitat loss.

Indirect Impacts

Removal of habitat for large wildlife species would result in indirect impacts. Displaced animals may relocate to other areas within the West Campus or the surrounding vicinity including Shepherd Parkway. These species would be forced to compete for limited resources in adjacent habitats; however, as noted above, impacts are not expected to affect the natural range of wildlife population levels. As habitat is reduced, overpopulation of displaced species (e.g., white-tailed deer) could result in damage to vegetation and in an increase in disease.

After construction, with occupation of the offices, there may be an increase in interactions between humans and wildlife such as squirrels, raccoons, fox, and other species looking for food and shelter.

Because habitat loss may place stress on wildlife populations and habitat and these impacts would be slight, but detectable, the No Action Alternative would result in indirect, long-term, minor, adverse impacts to wildlife.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Construction of new buildings, parking areas, sidewalks, and the shuttle hub under Alternatives A and B would result in the removal of vegetated areas that serve as habitat for wildlife species within the plateau and Sweetgum Lane sites. Trenching for installation of utilities would similarly disturb habitat. Other elements of Alternatives A and B, such as the shipping and receiving areas, would be incorporated into the design of the buildings and would not result in impacts to wildlife habitat. Large wildlife species currently utilizing the plateau and Sweetgum Lane sites such as raccoons,

turkey, and white-tailed deer would be excluded from construction zones by construction fencing; however, it should be noted that white-tailed deer could jump fences and may become trapped within the construction zones. Smaller species, like the eastern gray squirrel and birds, would move to other areas of the property during construction. Noise generated during construction would disturb wildlife. Once construction is completed, impacts from noise would greatly decrease. There would be a slight, but detectable, effect on wildlife from noise and displacement during construction, resulting in direct, short-term, minor, adverse impacts to wildlife.

Once construction is complete, there would be permanent removal of habitat where the buildings and other improvements have been constructed. Large animals such as turkey, raccoons, and white-tailed deer would be impacted more than small animals by the reduction of habitat due to their need for greater resources; however, the impacts are not expected to affect the natural wildlife population levels. Smaller species could use the remaining habitat within the sites to meet their requirements for living. Additionally, landscaping included as part of design and tree replacement would provide habitat for smaller mammals and bird species. Although habitat loss would be measurable, construction and operation of new facilities and associated improvements would not affect the natural range of wildlife population levels. Therefore, Alternatives A and B would result in direct, long-term, minor, adverse impacts to wildlife from habitat loss.

Removal of forest could impact migratory birds that may be utilizing these areas as nesting or foraging. There is similar habitat on Shepherd Parkway to the south of the West Campus that can be utilized by migratory birds. With mitigation measures described below, Alternatives A and B would have direct, short- and long-term, minor, adverse impacts on migratory birds.

Indirect Impacts

Removal of habitat for large wildlife species would result in indirect impacts. Displaced animals may relocate to other areas within the West Campus or the surrounding vicinity including Shepherd Parkway. These species would be forced to compete for limited resources in adjacent habitats; however, as noted above, impacts are not expected to affect the natural range of wildlife population levels. As habitat is reduced, overpopulation of displaced species (e.g., white-tailed deer) could result in damage to vegetation and in an increase in disease.

After construction, with occupation of the offices, there may be an increase in interactions between humans and wildlife such as squirrels, raccoons, fox, and other species looking for food and shelter.

There would be sufficient remaining habitat in the surrounding areas to provide for displaced species.

Because habitat loss may place stress on wildlife populations and habitat and these impacts would be slight, but detectable, Alternatives A and B would result in indirect, long-term, minor, adverse impacts to wildlife.

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, construction fencing would be used as a best practice to minimize impacts to wildlife from construction activities. Larger wildlife species would be removed from the construction zone prior to installing fencing to prevent isolating animals within the fenced area. Landscaping with native species and with species that provide habitat and food sources such as sumac (*Rhus sp.*), serviceberry (*Amelanchier sp.*), and elderberry (*Sambucus canadensis*) could mitigate for habitat loss.

Other plantings could include evergreen species to provide additional shelter for wildlife species. Deer-resistant landscaping should be considered to mitigate impacts from grazing white-tailed deer.

A deer control study would identify the best methods for deer management on the West Campus. Trees that would be planted would include tree protection measures to prevent deer browse from the remaining deer populations within the West Campus.

To minimize potential impacts to migratory birds, a pre-construction survey would be performed as a best practice to determine the presence of nests of migratory birds that have the potential to occur in the study area. If nests are identified, GSA would avoid vegetative clearing during the nesting period for those species. Trees removed for construction would be replaced to provide long-term mitigation for impacts to migratory bird habitat.

4.3 CULTURAL RESOURCES

This section analyzes reasonably foreseeable direct, indirect, and cumulative environmental impacts associated with each of the alternatives under consideration.

Assessment Methodology

The alternatives were assessed using Section 106 definitions of adverse effects to cultural resources. Adverse effects on cultural resources can include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or that alter its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or the sale, transfer, or lease of the property out of Federal ownership (or control)

without adequate legally enforceable restrictions or conditions to ensure preservation of the property’s historic significance.

Throughout this chapter, Alternatives A and B are compared to the No Action Alternative. Where the cultural landscape of the No Action Alternative was described using Section 106 analysis as part of the 2008 EIS, the comparison incorporates Section 106 findings of consistent effect, intensified adverse effect, and new adverse effect. As buildings and landscapes are not fully designed in Master Plan Amendment 2, effects on cultural resources are evaluated specifically where possible, but otherwise only in a general matter.

The impact thresholds for Cultural Resources are provided in Table 4-10.

Table 4-10 Impact Intensity Thresholds for Cultural Resources

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Impacts to contributing cultural resources would not be discernable and would not rise to level of adverse impact under Section 106.	Impacts to contributing cultural resources would be slight and detectable but would not rise to level of adverse impact under Section 106.	Impacts to cultural resources are potentially major but with minimization and mitigation measures is reduced below major. Considered an adverse impact under Section 106	Permanent alteration or removal of contributing cultural resources. Considered an adverse impact under Section 106.
Geographic Context	Campus-wide	Campus-wide	Regional	Regional
Duration	Temporary, lasting through construction or lasting 1+ years after construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

4.3.1 Historic Properties in the Primary Area of Potential Effects

No Action Alternative

Direct Impacts

All buildings on the plateau and Sweetgum Lane sites would be retained under the No Action Alternative. Rehabilitation of contributing buildings on the West Campus, in accordance with *Secretary of the Interior’s Standards for the Treatment of Historic Properties* and the *Guidelines for Rehabilitating Historic Buildings*, would have beneficial impacts on individual buildings. The alterations and additions necessary to meet current office and shared-use needs would have direct, long-term, moderate

adverse impacts on the historic fabric of the buildings. Construction of new buildings and parking facilities on the plateau site as proposed in the Master Plan would have direct, long-term, major adverse impacts on the overall setting, feeling, and association of the West Campus as a residential treatment facility.

Indirect Impacts

Under the No Action Alternative, the potential impacts on resources in the secondary APE would be visual. Construction of new buildings and removal of trees around building sites would be visible from many areas within the secondary APE because of St. Elizabeths’ location on the high ground of the topographic bowl (GSA, 2008a; GSA, 2012a). The 2008 EIS documents impacted views and vistas from these resources for the No Action Alternative, and they are summarized in Table 4-11.

Table 4-11 Impacts to Views and Vistas in the Secondary APE for No Action Alternative

Description	No Action Alternative
From the Washington Navy Yard and Navy Yard Annex	Minor adverse
From Fort McNair	Moderate adverse
From East Potomac Park	Moderate adverse
From the George Washington Memorial Parkway	Moderate adverse
From Reagan National Airport	Moderate adverse
From Anacostia Parkway	Major adverse
From Fort Stanton	Minor adverse
From Shepherd Parkway	Major adverse
From Congress Heights	Moderate adverse
To Washington	Moderate adverse
To the Virginia shoreline	Major adverse

Source: (GSA, 2008a)

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Rehabilitation of contributing buildings, including Buildings 52, 56/57, and 64 on the West Campus, in accordance with *Secretary of the Interior’s Standards for the Treatment of Historic Properties* and the *Guidelines for Rehabilitating Historic Buildings*, would have beneficial impacts on individual buildings. The alterations and additions necessary to meet current office and shared use needs in Building 52, 56/57, and 64 would have long-term, minor to moderate adverse impacts on the design, workmanship, setting, feeling, and association of the buildings. Under Alternative B, the proposed buildings would be located further from the ravine, so the adverse impact would be lessened compared to Alternative A.

There would be direct, long-term, major adverse impacts due to the removal of five contributing buildings on the plateau site (Buildings 60, 66, 67, 68, and 69) and one contributing building on the Sweetgum Lane site (Building 15).

Four of the buildings removed, Buildings 60, 66, 68, and 69, are part of an assembly of 11 buildings designed by Shepley, Rutan and Coolidge as part of the Richardson-era expansion of the campus. The removal of these four buildings would have direct, long-term, major adverse impacts on the design, materials, and workmanship of the campus. The removal would also have direct, long-term, major adverse effects on setting, feeling, and association on the campus, as the Richardson-era expansion with the Shepley, Rutan and Coolidge buildings would no longer be understood as a complete ensemble. The setting, feeling, and association of the remaining buildings in the Shepley, Rutan and Coolidge ensemble, including Buildings 64, 72, 73, 74, 75 in Site Parcel 2, and Buildings 89, 94, 95, and 100 on the East Campus parcel, would experience direct, long-term, major adverse impacts. The loss of the buildings would also impact the physical and architectural understanding of the history of patient care and staff nurses' residence on site.

The South Lawn visual zone would experience direct, long-term, major adverse impacts to views among the Shepley, Rutan and Coolidge ensemble, including from the East Campus to the West Campus due to the introduction of the proposed buildings, which would be visible behind Buildings 72, 73, 74, and 75 on Martin Luther King Jr. Avenue SE, and the view along Redwood Drive from the East Campus to the West Campus.

Building 67 on the plateau site and Building 15 on the Sweetgum Lane site are staff residence buildings with common features; there are five total similar staff residence buildings extant on the West Campus, all built in 1924. The removal of these two contributing staff residences would have direct, long-term, major adverse effects on the historic fabric of the West Campus. They would also have direct, long-term, moderate adverse effects on the setting, feeling, and association of the St. Elizabeths Campus including the history of staff residence on site.

Construction of new buildings and site improvements on the West Campus would have direct, long-term major adverse effects on the overall character of the setting and feeling of St. Elizabeths. The proposed buildings under Alternatives A and B would have a larger footprint and mass than the new construction proposed in the Master Plan. There would be direct, long-term, major adverse effects to the setting, feeling, and association of Building 64 and the landscape of the South Lawn. The effect under Alternative B would be slightly less compared to Alternative A because there would only be two buildings and they are located at the edge of the plateau site with a landscaped buffer to the South Lawn.

The South Lawn visual zone would have direct, long-term, major adverse impacts on views among the Shepley, Rutan and Coolidge ensemble including from the East Campus to the West campus. The proposed buildings would be visible behind Buildings 72, 73, 74, and 75 on Martin Luther King Jr. Avenue SE including the view along Redwood Drive from the East Campus to the West Campus. Demolished buildings would also be absent from the visual zone.

Indirect Impacts

The impact on views to the campus from these resources is consistent with the Master Plan Amendment 2, as identified in Section 4.3.2 and Table 4-12, with the exception of intensification of direct, long-term, moderate adverse effects on views from several contributing buildings in the eligible Congress Heights Historic District. Under the Master Plan, this view had moderate adverse effects. A new building was in the foreground of the view, as well as Building 69. Under Alternatives A and B, Building 69 would be demolished, and a new building would be constructed in a larger area where Building 69 and a new building were envisioned in the Master Plan. Some trees would remain between the new building and the fence of the property, and over time growth of these trees would have a beneficial effect on views from Congress Heights. The loss of Building 69 from the view results in indirect, long-term, moderate adverse impacts on views from Congress Heights.

4.3.2 Landscape Resources

No Action Alternative

Direct Impacts

Implementation of the Master Plan would have adverse effects on 55 of the 127 historic landscape features on the West Campus identified in the CLR, leaving 72 unaffected. Adverse effects would occur on natural systems, spatial organization, views, topography, vegetation, individual features, and circulation. Adversely affected natural systems and features include the woodland cover on the north and west slopes. The overall spatial organization of all five landscape parcels is also adversely affected. Visual resources, including views from the site as well as those outside the site, would be adversely affected. Arboretum-style planting resources in Site Parcels 1 and 2, individual vegetation features, and portions of St. Elizabeths' woodland areas would also be adversely affected. Individual features of the vehicular and pedestrian circulation system and constructed landscape features would be adversely affected by development. The 2008 EIS analyzed the cultural landscape using Section 106 analysis; Table 4-13 and Table 4-14 show the results of that analysis (GSA, 2008a).

The No Action Alternative would result in direct, long-term, major, adverse effects on St. Elizabeths' cultural landscape. The alternative generally protects the landscape features north and

immediately south of the Center Building, as well as the lawn associated with the lettered buildings to the south. The intensity of impact results from the concentration and scale of development on the warehouse site, in the Power House ravine, and in the wooded area west of the West Campus cemetery; from security and parking construction inside the historic perimeter wall on the east; and the likelihood of significant loss of vegetation in the replacement of the site’s infrastructure. The widening of Martin Luther King Jr. Avenue SE proposed as part of the No Action Alternative would also adversely affect the segment of Martin Luther King Jr. Avenue SE within the campus boundaries, which has been determined to be an integral component of the hospital circulation system, which itself is a contributing landscape feature. Widening of Martin Luther King Jr. Avenue SE would adversely affect its spatial organization, views, and physical features such as width, east sidewalk, and eastern verge, all of which are character-defining elements of Martin Luther King Jr. Avenue SE.

In addition to identified cultural landscape features, the 2008 EIS documents the direct, long-term, major, adverse impacts to views and vistas within the Primary APE for the No Action Alternative according. These impacts are summarized in Table 4-12.

Table 4-12 Impacts to Internal Campus Views from the No Action Alternative

Description	No Action Alternative
From St. Elizabeths East Campus	Major adverse
From Gate 1 to the Center Building and Cottage area	Major adverse
From Gate 2 to the Allison Buildings	Major adverse
From the Allison Buildings to the Center Building, Cottage area, and Gates	Major adverse
From the Center Building to the South	Major adverse
To and from the Lawn at Buildings 60, 64, 66 through 69, 70, and 72 through 75	Major adverse
To and from the cemetery	Major adverse

Source: (GSA, 2008a)

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Alternatives A and B would have adverse effects on six character-defining features for the overall campus design, setting, and ensemble. The adversely affected features are listed in Table 4-13; character-defining features are derived from the CLR and LPP.

The 2008 EIS did not document impacts to overall circulation, but the greater specificity of Master Plan Amendment 2 identifies new or intensified adverse effects for this feature as well as others.

Adverse effects to trees in an arboretum-style planting over turf and the visual relationship between the architecture of the Monumental Core and the Power Plant smokestacks would be consistent across all alternatives. Both Alternatives A and B would intensify the adverse effect on slopes and ravines separating the historic campus from related service and agricultural services because of new construction and site work occurring in such ravines as compared to the No Action Alternative. The effects of new construction and proposed site work for both Alternatives A and B would adversely affect pedestrian and vehicle circulation and historic drop-off loops at building entrances. New circulation and access would serve larger buildings in new locations for both Alternatives A and B. Effects from the widening of Martin Luther King Jr. Avenue SE would be adverse and consistent for Alternatives A and B.

Table 4-13 St. Elizabeths West Campus Landscape Overall Campus Design or Concept Character-Defining Features Impacted by Proposed Action

LPP No.	Landscape Character—Defining Feature for Overall Campus Design or Concept	No Action Alternative	Alternative A	Alternative B
Vegetation				
T1	Trees in an arboretum style planting over turf	Adverse	Consistent adverse	Consistent adverse
Circulation				
C1	Graceful and sweeping pedestrian circulation program	None	New adverse	New adverse
C11	Graceful and sweeping vehicular circulation program	None	New adverse	New adverse
C12	Narrow radii historic drop-off loops at building entrances	None	New adverse	New adverse
Topography and Drainage				
D2	Slopes and ravines separating the historic campus from related service and agricultural services	Adverse	Intensify adverse	Intensify adverse
Views and Visual Relationships				
V9	Visual relationship between the architecture of the Monumental Core and the Power Plant smokestacks	Adverse	Consistent adverse	Consistent adverse

Source: GSA, 2008a

In addition to these campus-wide features that would be impacted, other location-specific landscape features would have new adverse effects or an intensification of adverse effects as compared to the No Action Alternative (Table 4-14). Intensification of adverse effects or new adverse effects are described below in greater detail to determine their impact including duration, intensity, and context.

Table 4-14 St. Elizabeths West Campus Character-Defining Landscape Features Adversely Affected by the Proposed Action

Landscape Unit	LPP No.	Landscape Character—Defining Feature	No Action Alternative	Alternative A	Alternative B
Vegetation					
2,3,5	T24	Woodland along west slopes towards Anacostia River along northwest, west, and southwest property boundaries (Oak, beech, maple, elm species)	Adverse	Consistent adverse	Consistent adverse
4	T26	High quality woodland patch with older specimens in the ravine south of the Power House	Adverse	Consistent adverse	Consistent adverse
Natural Systems and Features					
5	N4	Woodland cover on west slope	Adverse	Consistent adverse	Consistent adverse
Circulation					
2	C9	Paved concrete walk south of Building 64	Adverse	Intensification	Intensification
2	C10	Paved concrete walk connecting Building 69 toward Building 64	Adverse	Intensification	Intensification
1	C16	Cedar Drive and Sweetgum Lane layout (Paved Main loop road from Main Loop Road at Upper plateau/portion of Lowlands)	Adverse	Intensification	Intensification
2	C20	Spruce Street and Redwood Drive Loop (Paved Loop Road at Richardson Quadrangle)	Adverse	Consistent adverse	Consistent adverse
2	C21	Willow Street and Plum Street loop layout	Adverse	Intensification	Intensification
Spatial Organization and Land Patterns					
1	O5	Athletic Field Landscape	None	New adverse	New adverse
Views and Visual Relationships					
2	V1	Views of walls and West Campus gates along Martin Luther King Jr. Avenue SE	Adverse	Intensification	Intensification
1	V3	Episodic views and vistas from high ground of Unit 1 to rivers and Monumental Core	Adverse	Consistent adverse	Consistent adverse
1	V7	Athletic Field visual zone	Adverse	Intensification	Intensification
2	V11	Slot view to Monumental Core and Buildings 60 and 66	Adverse	Intensification	Intensification
3,5	V15	Views across wooded areas	Adverse	Consistent Adverse	Consistent Adverse

Landscape Unit	LPP No.	Landscape Character—Defining Feature	No Action Alternative	Alternative A	Alternative B
3, 5	V16	Views from points across the river to the Topographic Bowl of the wooded Anacostia Rive bank and St. Elizabeths Hospital (Indirect)	Adverse	Consistent Adverse	Consistent Adverse
4	V18	Internal views of service and industrial landscape	Adverse	Consistent Adverse	Consistent Adverse
5	V20	Internal views of cemetery	Adverse	Intensification	Intensification
Topography and Drainage					
4	D10	Power House ravine	Adverse	Intensification	Intensification

Source: (GSA, 2008a)

In order to stabilize the slope of the plateau site and improve circulation between campus parking and new buildings, the Power House ravine would be transformed into a landscaped access path with integrated retaining walls. These improvements would have beneficial impacts to the stability of the slope of the plateau area and pedestrian circulation on the St. Elizabeths campus. There would be a direct, long-term, major adverse impact on the Power House ravine (D10) including the landscaped buffer of the ravine, its industrial character, and internal views of the service and industrial landscape (V18) in both Alternatives A and B. The impact is more intense in Alternative A because of the location of a proposed building adjacent to the Power House ravine.

Vehicular and pedestrian circulation on the plateau site would be impacted by the construction of new proposed buildings. While exact access paths, loading, and site work are not currently designed, these impacts can be foreseen. Construction of the three buildings would result in some clearing of trees from the site. Because Alternative B concentrates the footprint of new development into two proposed buildings, Alternative B minimizes impacts to trees, visual zones, and the South Lawn compared to Alternative A. A larger area of protected trees would be preserved as open space between Buildings 66 and 68, allowing views back to Buildings 74 and 75 on Administrative Row. The consolidated massing also helps preserve more views over wooded areas and out to the western slopes as compared to Alternative A. Under both alternatives, these impacts would be direct, long-term, major, and adverse.

The construction of a new building located at the Sweetgum Lane site would have new, direct, long-term, major effects on recreational use of the athletic field as a cultural landscape (O5). The presence of the building would also result in an intensified impact to the Athletic Field visual zone (V7).

The views, and vistas identified in the CLR and LPP allowed for visual zones, where a broader area and additional views of visual significance could be identified through consultation.

There would be direct, long-term, major adverse effects to views and visual zones on the plateau site, including features identified in the CLR and LPP such as slot views to the Monumental Core and Buildings 64 and 66 (V11), views of the walls and West Campus gates along Martin Luther King Jr. Avenue SE (V1), and internal views of service and industrial landscape (V18). Visual effects in the South Lawn visual zone include the loss of contributing buildings from views, changes to circulation and landscape on the plateau, and the larger size of the proposed buildings under Alternatives A and B. Collectively, there would be direct, long-term, major adverse impacts on views within the plateau site.

The CLR identifies two visual zones impacted by the Sweetgum Lane site, the athletic field visual zone (V7) and the cemetery (V20). New construction on the Sweetgum Lane site would result in a building in the athletic field visual zone, where there currently is no structure, modifying the visual zone. The building would also affect views from the Center Building and other high points nearby that look out over the athletic field (V16). Construction of the new building and clearing of vegetation for construction on the site would affect the cemetery visual zone, as the uphill view from the cemetery would be less wooded and may include intermittent views of the new building. Collectively, there would be direct, long-term, moderate adverse impacts on views in the Sweetgum Lane site.

Mitigation Measures

GSA has identified various measures to preserve and minimize harm to significant features of the NHL. In addition to ongoing mitigation from the 2008 EIS, the mitigation measures in Table 4-15 are included in the Final Master Plan Amendment 2 MOA (Appendix F). These items were informed by Section 106 consultation.

Table 4-15 Proposed Additional Mitigation for New and Intensified Adverse Effects

Public Outreach, Interpretation, and Education		
Mitigation Effort	Description	Additional Notes
St. Elizabeths Online Museum	Create an online version of materials from the 2017-2018 St. Elizabeths exhibit at the National Building Museum, and add the interpretive sign program, and other educational materials and documentation, within 5 years of execution of this MOA and in consultation with the DCSHPO.	

Public Outreach, Interpretation, and Education		
Mitigation Effort	Description	Additional Notes
Tagging of specimen trees	Provide tags with botanical information on historic trees as defined in the Landscape Preservation Plan within 5 years of the execution of this MOA	Creates an educational amenity for site occupants and visitors
Documentation and Recordation		
Historic Documentation	Conduct additional documentation, including digital documentation of the interiors and exteriors of Buildings 60, 66, 68, and 69 and make it available to the public through an online platform.	This additional digital documentation would expand on already-completed HABS documentation of all contributing buildings on the West Campus and make a virtual tour of these buildings publicly accessible online
Landscape		
Tree Replacement	replace historic trees removed for construction with the same or similar species in a nearby location as feasible and subject to guidance from GSA's Regional Horticulturalist and in consultation with the DC SHPO	

4.4 SOCIAL AND ECONOMIC RESOURCES

4.4.1 Land Use Planning and Zoning

Assessment Methodology

The alternatives to the proposed action were compared to Federal and District of Columbia land use and zoning plans to determine if they are consistent with the goals and requirements of the individual plans.

The impact thresholds for land use planning and zoning are provided in Table 4-16.

Table 4-16 Impact Intensity Thresholds for Land Use Planning and Zoning

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Inconsistencies with land use plans would not result in	Inconsistencies with land use plans would result in slight but	Effect that is potentially major but with	The alternative would be inconsistent with land use plans and would conflict

	discernable effects on the implementation of the plans The alternative would be consistent with zoning	detectable effects on the implementation of land use plans The alternative would be consistent with zoning	mitigation measures is reduced below major	with the goals laid out in the plans preventing the implementation of the plans The alternative would require a change in zoning, and the change would not be compatible with surrounding land uses
Geographic Context	Campus-wide	Campus-wide	Regional	Regional
Duration	Temporary, lasting through construction or lasting 1+ years after construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

The 2008 EIS determined that development of the West Campus would be compatible with the Federal and District Elements of the *Comprehensive Plan*. The No Action Alternative is consistent with the Urban Design Policies included in the 2016 updates to the *Comprehensive Plan*. The 2008 EIS also determined that redevelopment of the West Campus would be compatible with the adjacent land uses.

The West Campus is currently considered Federal land use, and DCOP and the *Comprehensive Plan* show the West Campus as remaining in Federal use. The No Action Alternative is consistent with this use. Similarly, the West Campus is currently not zoned as it is a Federal property and would remain unzoned under implementation of the No Action Alternative.

The No Action Alternative would not directly affect zoning and would not directly impact land use planning.

Indirect Impacts

The No Action Alternative remains compatible with other plans and initiatives that apply to the areas surrounding the West Campus including the *AWI*, the *Barry Farm/Park Chester/Wade Road Redevelopment Plan*, the *Great Streets Initiative*, the *New Communities Initiative*, the *Anacostia Transit Area Strategic Investment and Development Plan*, and the *CapitalSpace Plan*. The *DC Innovation Strategy for Saint Elizabeths Final Report* was finalized after the completion of the 2008 and 2012 EISs, and the redevelopment of the West Campus was incorporated into its strategy; therefore, the final report is compatible with the No Action Alternative. Similarly, the *CHASE Action Agenda* was implemented

in 2014 as a guide for the CHASE area in response to development including the development of the West Campus.

The No Action Alternative would not result in indirect impacts to land use or zoning in the area surrounding the West Campus.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Alternatives A and B would not directly or indirectly affect zoning and would not directly impact land use planning. As described in the section below, the action alternatives would be consistent with most Federal and District of Columbia land use plans and goals and would support implementation of the *Innovation Strategy for Saint Elizabeths* and the *CHASE Action Agenda*. Therefore, Alternatives A and B would have beneficial impacts on land use planning and zoning.

Regional Land Use and Planning

The Comprehensive Plan for the National Capital

As described in Section 3.4.1, the Federal and District of Columbia Elements of the *Comprehensive Plan* guide planning and development in the District of Columbia. The compatibility of Alternatives A and B with the Federal and District of Columbia Elements is described below.

Federal Elements

Urban Design Element: Alternatives A and B are consistent with the Urban Design Element's goal to promote development in the NCR that supports its function as the nation's capital. Development of the West Campus for a Federal agency reinforces this role. The following describes the project's compliance with the policies of the Urban Design Element:

Form and Character of the Nation's Capital

Proposed buildings under the action alternatives would be three to five stories in height on the plateau and up to eight stories in the ravine. The natural skyline and views of the topographic bowl would be considered during design. Some specimen trees would be removed to accommodate construction; however, a landscape plan would be implemented which would include replacement of trees.

Federal Facilities, Property, and the Public Realm

Under Alternatives A and B, the Master Plan would be updated in accordance with the Urban Design Elements of the *Comprehensive Plan*. Buildings would incorporate sustainability measures and

would be designed with the surrounding context in mind and to highlight their importance within the NCR. Both action alternatives include implementation of a landscape plan and sidewalks to enhance the pedestrian experience for employees and visitors on the West Campus. Security measures would be implemented, and security features would be located entirely within the West Campus and not within public spaces, which would comply with the Urban Design and Security policies of the Urban Design Element.

Federal Workplace Element: Alternatives A and B are consistent with the Federal Workplace Element. The West Campus would be redeveloped to provide Federal office space. The following describes the project's compliance with the policies for locating Federal workplaces:

Locating Federal Workplaces

The West Campus is a prominent development site with symbolic connections to the District as an NHL. While Buildings 15, 60, 66, 67, 68, and 69 would be demolished, Buildings 52, 56, 57 and 64 would be retained, rehabilitated, and adaptively reused for Federal use. Furthermore, the West Campus is in an urban area that is under redevelopment. The West Campus is proximate to multiple forms of public transportation, housing options, and residential communities for members of the Federal workforce. Throughout the development of Alternatives A and B, GSA received input from the public and government agencies (Appendix A).

Developing and Managing Federal Workplaces

This policy section refers to the operation and management of Federal workplaces. Both alternatives would site new buildings in an east-west orientation to provide optimal energy efficiency and daylight. Alternatives A and B would ensure that safe and healthy working conditions are provided and maintained. In addition, the West Campus is close to public transportation, employee services, and affordable housing.

Reusing of Federal Space and Land

Under Alternatives A and B, federally owned land would be reused, and no new land would be purchased or leased. Currently underutilized space within the West Campus would be used.

Transportation Element: Alternatives A and B would be consistent with the principles within this element. The following describes the proposed action's compliance with the policies contained in the Transportation Element of the *Comprehensive Plan*:

Integrated Regional Transit

These policies relate to expanding regional transit services. Alternatives A and B do not propose any changes to the regional transit system.

Parking and Parking Ratios

Parking spaces would be provided at a 1:4 ratio; employees who do not have access to parking would access the West Campus by Metrorail, shuttles, buses, or carpools. Parking would be provided for disabled persons in accordance with Federal law, and priority for parking spaces would be given to clean technology or carpooling vehicles as outlined in the TMP.

Transportation Management Plans

A TMP would be established under Alternative A or Alternative B to assist employees in finding ways to commute other than by single-occupant vehicles.

Transportation Demand Management

The TMP would promote biking, walking, and transit as preferable means of transportation to single-occupant vehicles. Strategies such as increased telecommuting or alternative work schedules would also be employed. Both action alternatives would comply with the transportation demand management policies.

Active Commuting and Bicycling for Federal Employees

Although no trails or bike lanes are proposed due to security requirements, limited traffic onsite would be conducive to the use of bicycles. Secured, sheltered bicycle parking and lockers would be provided to employees. Additionally, parking areas would be designed to provide safe entry for bicyclists.

Shuttles and Circulators

DHS operates a shuttle system to bring employees to the West Campus from Metrorail stations and other Federal facilities. Onsite shuttles may also be provided as vehicular travel between buildings on the West Campus.

Non-Auto-Oriented Transportation, Tourism, and Development Interests

Alternatives A and B would provide sidewalks and other connections between the buildings on the West Campus. Both alternatives propose construction of a pathway from the plateau to the Power House to facilitate a walkable campus.

Investment Priorities (Not Applicable)

Alternatives A and B do not propose any improvements to the existing regional transportation system.

Parks & Open Space Element: Alternatives A and B would impact open space on the West Campus. To promote a balance between open space resources and the built environment, Alternative A would organize the office structures within the plateau site around open courtyards, while Alternative B would include two enclosed courtyards. Security requirements for the DHS Headquarters would prohibit unrestricted public access to the campus. The following describes the action alternatives' compliance with the policies contained in the Parks & Open Space Element:

Protecting the Historic Features of Parks and Open Space

Although historic Buildings 15, 60, 66, 67, 68, and 69 would be demolished under the action alternatives, Building 64 would be rehabilitated and reused. The reused building would be preserved, to the extent possible, while meeting the operational needs of DHS. Coordination with ACHP, DCSHPO, and other Consulting Parties would ensure that the natural and architectural features of the landscape would be preserved to the extent possible.

Encouraging Stewardship of Natural Resources

Alternatives A and B would be consistent with the applicable policies of this section. Impacts to vegetation would be minimized through the siting of the proposed buildings. Vegetation and wildlife habitat would be impacted as necessary, and construction vehicles and equipment would be stored in specific staging areas. Additionally, buildings would be designed to minimize impacts to views of the topographic bowl. The buildings would be stepped down the side of the ravine to stabilize the slope in that area.

Balancing Commemorative Works within Parks (Not Applicable)

No commemorative works are planned within a park under Alternatives A or B.

Improving Access to, and Connections between, Parks and Open Space (Not Applicable)

Alternatives A and B do not propose any expanded connections between parks and open space, and access to the West Campus would be limited due to security requirements for DHS Headquarters.

Balancing Multiple Uses within Parks (Not Applicable)

The West Campus is not a park, and public access to the site would be limited due to security requirements for DHS Headquarters.

Building a Cohesive Parks and Open Space System (Not Applicable)

Public access to the West Campus is restricted, and the campus is not intended to be part of a cohesive Parks and Open Space system.

Federal Environment Element: Alternatives A and B would result in impacts to natural resources as described in Section 4.2, Natural Resources. The Federal Environment Element provides guidance and policies to promote sustainable development and minimize impacts to the environment. The following describes the project's compliance with the policies contained in the Federal Environment Element:

Climate Change

Under Alternatives A and B, buildings would be oriented to maximize energy efficiency and would be designed with the goal of achieving LEED Gold certification. Additionally, forms of travel that would decrease emissions would be encouraged. The action alternatives may include shuttle bus hubs and parking dedicated to carpooling or clean energy vehicles as outlined in the TMP.

Air Quality

The TMP outlines measures to encourage alternative modes of travel for employees to reduce the use of single-occupancy vehicles and thus reduce emissions including dedicated parking for carpooling vehicles or clean technology vehicles.

Water Resources and Stormwater Management

The action alternatives would comply with applicable policies in the element with regards to water quality. Erosion and sediment controls would be used to minimize impacts to water quality. Stormwater management controls would be implemented in accordance with the *St. Elizabeths Utility Integration Plan Overall Stormwater Program*. GSA's Integrated Pest Management Program would be followed to control the use of chemicals such as fertilizers or pesticides.

Flooding

Alternatives A and B only propose construction outside floodplains.

Waterbodies and Wetlands

There are no waterbodies or wetlands within the Sweetgum Lane or plateau sites. Erosion and sediment control measures would minimize impacts to surface waters.

Soils

Alternatives A and B would require the stabilization of steep slopes. Buildings would be designed to minimize the need to disturb existing topography, and buildings would be stepped down into the ravine near Buildings 56 and 57 to stabilize the slope. The proposed pathway from the ravine to the plateau would be designed to minimize potential future erosion. In addition, a DOEE-approved erosion and sediment control plan and the planting of native vegetation would reduce soil erosion and sedimentation.

Tree Canopy and Vegetation

The action alternatives are consistent with applicable policies of this section. Vegetation would be removed only as necessary. Some specimen trees would be removed to accommodate construction; however, a landscape plan would be implemented and would include replacement of trees with native plant species. Fencing would be placed around or beyond the drip line of remaining trees to protect roots from soil compaction.

Wildlife

As described in Sections 4.2.4 and 4.2.5, there is potential for impacts to wildlife and wildlife habitat under Alternatives A and B. Mitigation measures as outlined in Section 4.2.5 would be used to minimize impacts to wildlife.

Solid Waste and Hazardous Materials

Hazardous materials identified in the buildings planned for demolition (Buildings 15, 60, 66, 67, 68, and 69) and the buildings planned for rehabilitation (Buildings 52, 56, 57, and 64) would be removed and disposed of following applicable Federal and local regulations. Fly ash and other soil contaminants found in soils disturbed by construction would be removed and disposed of in an authorized landfill. Waste reduction measures such as recycling or the use of biodegradable products would be implemented.

Light Pollution

During design, lighting options that best reduce light pollution would be selected for the buildings constructed under the action alternatives.

Noise Pollution

Alternatives A and B would comply with local noise ordinances during construction. In addition, the constructed buildings would be located away from sensitive land uses.

Energy

Energy performance would be improved through design measures such as orientating the proposed facilities to optimize the use of daylight and increase energy efficiency.

Radiofrequency Radiation and Electromagnetic Fields

By consolidating DHS Headquarters, any necessary antennas could be shared, reducing radiofrequency exposure. Other measures to minimize visual and health impacts, such as burying electrical and communications lines and utilizing advanced technologies, would be incorporated into design.

Environmental Justice

Minority and low-income populations live in the area surrounding the West Campus. However, no disproportionately high and adverse health or environmental effects on minority and low-income populations or children and the elderly resulting from the project have been identified. In addition, public scoping meetings were held so that the communities surrounding the West Campus could participate in the NEPA process. A summary of the public scoping meeting is provided in Appendix A.

Historic Preservation Element: Under Alternatives A and B, Buildings 52, 56, 57, and 64 would be retained, rehabilitated, and adaptively reused. Buildings 15, 60, 66, 67, 68, and 69 would be demolished. Mitigation measures for impacts to cultural resources would be developed in consultation with ACHP, DCSHPO, and other Consulting Parties. The following describes the project's compliance with the policies contained in the Historic Preservation Element:

Plan of the City of Washington

The action alternatives would be designed to minimize impacts to views of the West Campus from other points along the topographic bowl and to views from the West Campus to the portions of Washington, DC, defined by the L'Enfant plan. The proposed buildings would be designed so that their heights are compatible with other buildings on the West Campus. Public access to the West Campus would be limited due to security requirements for the DHS Headquarters.

Identification of Historic Properties

St. Elizabeths Hospital, which includes both the East and West Campuses, was listed as an NHL that contains 82 contributing resources. GSA would continue to coordinate with ACHP, DCSHPO, and other Consulting Parties regarding historic properties.

Protection and Management of Historic Properties

The action alternatives propose to reuse a historic property in a manner that meets Federal office requirements while preserving and protecting historic elements of the site. Six historic buildings would be demolished; however, Building 64 would be retained for Federal use and would be rehabilitated in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and the *Guidelines for Rehabilitating Historic Buildings*. In addition, the *St. Elizabeths West Campus Preservation, Design, & Development Guidelines* would be followed to ensure that construction would be compatible with the existing historic buildings and their setting within the West Campus (GSA, 2008b). GSA has conducted archaeological investigations at St. Elizabeths Hospital since 2003. All adverse effects to NRHP-eligible archaeological resources associated with the plateau and Sweetgum Lane sites have been previously mitigated.

Design Review

Viewsheds would be protected to the extent feasible. Six historic buildings would be demolished; however, Building 64 would be rehabilitated in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and the *Guidelines for Rehabilitating Historic Buildings*. Measures to avoid and minimize impacts to historic properties, as well as building designs, would continue to be reviewed with NCP, CFA, and the Consulting Parties.

Capital's Historic Image

Development of the West Campus would be designed in accordance with the *St. Elizabeths West Campus Preservation, Design, & Development Guidelines* to respect and complement the historic properties on the West Campus and the heritage of the nation's capital (GSA, 2008b).

Visitors and Commemoration Element (Not Applicable): Under Alternatives A and B, public access to the West Campus would be limited due to security requirements for the DHS Headquarters.

District of Columbia Elements

Land Use Element: The development of the West Campus would be compatible with adjacent land use and neighborhoods including development planned on the East Campus. Federal security measures at the West Campus are currently in place and would not impede adjacent areas.

Transportation Element: The action alternatives include a shuttle bus hub that would provide employees with access to transit systems. Additionally, other measures outlined in the TMP would promote forms of transportation other than single-occupancy vehicles. Both action alternatives

would be compatible with the Transportation Element of the District Elements of the *Comprehensive Plan*.

Environmental Protection Element: Alternatives A and B would be consistent with the applicable policies of the Environmental Protection Element. The siting of the proposed buildings would be done to best stabilize the slope and minimize impacts to topography and vegetation. During construction, erosion and sediment controls would minimize sedimentation from reaching surface waters. Impacts to vegetation and wildlife habitat would be limited to the areas of construction and protections would be put in place for vegetation not impacted by the construction. In addition, new buildings would be constructed to be energy efficient with the goal of achieving LEED Gold certification.

Economic Development Element: Under the action alternatives, the growth of the Federal workforce would be sustained in keeping with the policies of the Economic Development Element. Alternatives A and B would help sustain the presence of Federal jobs and employment in the capital; therefore, Alternatives A and B would be consistent with the policies of this element.

Urban Design Element: Alternatives A and B would be consistent with the Urban Design Element. Buildings would be sited to avoid impacts to the topographic bowl with minimized disturbance to existing topography. Construction and design would consider views to and from the West Campus. *The St. Elizabeths West Campus Preservation, Design, & Development Guidelines* have been prepared to ensure that construction would be compatible with the existing historic buildings and their setting within the West Campus (GSA, 2008b).

Preservation and Historic Features: Preservation and historic features would be incorporated into the action alternatives as previously described under Federal Elements.

The Far Southeast/Southwest Area Element: St. Elizabeths Hospital, including both the East and West Campuses, is listed as a specific policy focus area under the Far Southeast/Southwest Area Element. Alternatives A and B are both consistent with these policies. Under Alternatives A and B, Buildings 52, 56, 57, and 64 would be retained, rehabilitated, and adaptively reused. Buildings 15, 60, 66, 67, 68, and 69 would be demolished. The level of development proposed would also be compatible with the adjacent neighborhood and compatible with the development occurring on the East Campus. However, redevelopment of the plateau and Sweetgum Lane sites would not be integrated into the surrounding community as suggested by this element, and public access would be limited due to security requirements.

Other Plans

St. Elizabeths East Campus Framework Redevelopment Plan: Under Alternatives A and B, GSA would not construct a facility on the East Campus as currently called for in the *East Campus Framework Redevelopment Plan*. The plan states that successful implementation would require a major tenant, previously thought to be DHS.

St. Elizabeths East Master Plan and Design Guidelines: The location previously proposed for Federal use on the East Campus was not discussed in detail under the *St. Elizabeths East Master Plan and Design Guidelines*. GSA would not construct a facility on this location of the East Campus.

DC Innovation Strategy for Saint Elizabeths Final Report: Alternatives A and B are consistent with the *DC Innovation Strategy for Saint Elizabeths Final Report*. The report is predicated upon the development of the West Campus to serve as a Federal anchor for future development that focuses on innovation.

The CHASE Action Agenda: The action alternatives are consistent with *The CHASE Action Agenda*. *The CHASE Action Agenda* builds on the development of the West Campus and guides development of the surrounding community. *The CHASE Action Agenda* would remain applicable even though the GSA will not be constructing a facility on the East Campus.

Anacostia Waterfront Initiative: Alternatives A and B are consistent with the *AWI*; the action alternatives would not impact the *AWI* target areas near the West Campus including South Capitol Street SE, Poplar Point, or the Anacostia Riverwalk Trail. Additionally, Alternatives A and B would not impact the five key elements guiding the *AWI*.

Barry Farm/Park Chester/Wade Road Redevelopment Plan: Implementation of the action alternatives would be consistent with the redevelopment activities associated with the Barry Farm/Park Chester/Wade Road Redevelopment Plan. The redevelopment of the neighborhood would not be affected by, or be likely to affect, the redevelopment of the West Campus.

Great Streets Initiative: Implementation of the action alternatives would not adversely impact the corridor improvements outlined in the Great Streets Initiative, nor would it conflict with the Initiative's goals. Therefore, Alternatives A and B are consistent with the Great Streets Initiative.

New Communities Initiative: The implementation of the action alternatives would not result in impacts to Barry Farm and would be consistent with the New Communities Initiative.

Anacostia Transit Area Strategic Investment and Development Plan: Alternatives A and B are consistent with the *Anacostia Transit Area Strategic Investment and Development Plan*. The redevelopment of the West Campus would not inhibit the goals to revitalize the Anacostia Metro Station Area.

CapitalSpace Plan: The action alternatives do not fall under the six “Big Ideas” outlined under the *CapitalSpace Plan*; Alternatives A and B would not impact park areas and would be unlikely to affect the *CapitalSpace Plan*.

Study Area Land Use and Zoning

Implementation of Alternatives A or B would not adversely impact land use planning or zoning within the West Campus. Land use on the West Campus is currently listed as Federal use and would remain the same with the proposed redevelopment. This is consistent with the future land use proposed under the *Comprehensive Plan*.

Under Alternatives A and B, the West Campus would remain unzoned as a Federal property. Therefore, there would be no direct impacts to land use, planning, or zoning under the action alternatives.

Indirect Impacts

Alternatives A and B would not result in indirect impacts to land use, planning, or zoning in the area surrounding the West Campus. The action alternatives would not affect planned development in the vicinity, nor would they cause changes in surrounding land use or zoning.

Mitigation Measures

No mitigation measures are proposed under the No Action Alternative or Alternatives A and B for land use, planning, and zoning.

4.4.2 Population and Housing

Assessment Methodology

The alternatives were qualitatively assessed to determine if they would result in disruptions to population centers or result in reductions or increases in housing stock and home values.

The impact thresholds for population and housing are provided in Table 4-17.

Table 4-17 Impact Intensity Thresholds for Population and Housing

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes in population or housing values	Employee relocation would result in slight, but detectable increases populations or home values, but these changes would not result in the displacement of existing populations	Effect that is potentially major but with mitigation measures is reduced below major	Employee relocation would result in increases in populations or home values, and these changes would limit housing options for a large number of people in existing populations
Geographic Context	Regional	Regional	Regional	Regional
Duration	Temporary, lasting only through construction	Lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

The plateau site does not currently have any occupied residences. The No Action Alternative would not add housing to the West Campus, nor would it modify existing or planned housing in the vicinity of the West Campus. Therefore, the No Action Alternative would not result in direct impacts to population and housing.

Indirect Impacts

The addition of 1.1 million gsf of office space under the No Action Alternative would provide new space for Federal operations and employees. It is assumed that most employees who would work at the new facilities already live within the NCR and would not be required to move their residence if their offices relocate to the West Campus. The number of employees that may move to the communities surrounding the West Campus would likely be slight, but detectable. Existing populations would not be displaced by the No Action Alternative. Therefore, the relocation of employees under the No Action Alternative would have an indirect, minor, long-term, adverse impact on housing stocks.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

The plateau and Sweetgum Lane sites do not currently have any occupied residences. Neither of the action alternatives would add housing to the West Campus, nor would they modify existing or planned housing in the vicinity of the West Campus. Therefore, Alternatives A and B would not result in direct impacts to population and housing.

Indirect Impacts

The addition of 1.2 million gsf of office space to the plateau under Alternatives A and B would provide new space for Federal operations and employees. It is assumed that most employees who would work at the new facilities already live within the NCR and would not be required to move their residence if their offices relocate to the West Campus.

The number of employees that may move to the communities surrounding the West Campus would likely be slight, but detectable, and would not displace existing populations. Therefore, the relocation of employees under Alternatives A and B would have an indirect, minor, long-term, adverse impact on housing stocks.

Mitigation Measures

No mitigation measures are proposed for population and housing under the No Action Alternative or Alternatives A and B.

4.4.3 Environmental Justice

Assessment Methodology

Impacts associated with the alternatives were assessed to determine if they would result in disproportionate impacts to low-income and minority populations compared to the general population. Impacts to environmental conditions affecting low-income and minority populations including the natural environment, social and economic conditions, air and noise quality, transportation, access to utilities, and environmental contamination were assessed to determine if they could affect the health and safety of these populations.

The impact thresholds for environmental justice are provided in Table 4-18.

Table 4-18 Impact Intensity Thresholds for Environmental Justice

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts to minority and low-income populations	Minority and low-income populations may be impacted, but impacts would not be disproportionately greater than impacts to the general population	Effect that is potentially major but with mitigation measures is reduced below major	Minority and low-income populations would be impacted, and impacts would be disproportionately greater than impacts to the general population
Geographic Context	Regional	Regional	Regional	Regional
Duration	Temporary, lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

The development proposed on the plateau site under the No Action Alternative was analyzed in the 2008 EIS, and it was determined that the No Action Alternative would not result in disproportional direct, adverse impacts to low-income populations, minority residents, the elderly, or children.

The No Action Alternative would not directly affect the natural environment, land use, housing, economic conditions, air quality, or noise levels of populations living in the vicinity of the West Campus. Mitigation measures were developed to minimize impacts to transportation systems serving the local community. Therefore, there would be no direct adverse impacts to environmental justice communities.

Indirect Impacts

As noted in Section 3.4.3, according to EPA’s EJSCREEN, the area surrounding the West Campus is in a higher percentile for several environmental indices when compared to the District and country averages with regard to air quality and environmental contamination. According to the EJSCREEN results, environmental justice communities in the area surrounding the West Campus are especially susceptible to potential increases in environmental impacts.

The No Action Alternative would have effects on the communities surrounding the site including impacts to air quality, noise, and transportation systems. However, mitigation measures described in Sections 4.5, 4.6, and 4.7 would minimize these impacts to local communities, and the impacts that

would occur would not affect the health and safety of environmental justice communities. With mitigation, impacts to minority and low-income populations would not be discernable. Therefore, the No Action Alternative would result in indirect, short-term, negligible, adverse impacts to environmental justice communities.

Environmental contamination, including ACM, LBP, PCBs, mercury-containing materials, and fly-ash, would be removed during building rehabilitation and construction and disposed of in accordance with the Resource Conservation and Recovery Act (RCRA) and NESHAP at an EPA-approved landfill. By removing these hazardous materials, the No Action Alternative would have a positive impact on environmental conditions and human health; however, these benefits may not be detectable in the community outside the West Campus.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Alternatives A and B would not result in disproportionate direct, adverse impacts to low-income populations, minority residents, the elderly, or children. There are children present on the West Campus within the federally provided daycare facility; however, these children would not be in the immediate vicinity of the proposed construction. Mitigation measures described in Section 4.5, Air Quality, and Section 4.6, Noise, would minimize exposure of children to airborne particulates and noise during the construction process.

Indirect Impacts

As noted in Section 3.4.3, according to EPA's EJSCREEN tool, the area surrounding the West Campus is in a higher percentile for air quality and environmental contamination compared to the District and national averages. Environmental justice communities in the area surrounding the West Campus are especially susceptible to potential increases in environmental impacts.

The action alternatives would have effects on the communities surrounding the site including impacts to air quality, noise, and transportation systems. However, mitigation measures described in Sections 4.5, 4.6, and 4.7 would minimize these impacts to local communities, and the impacts that would occur would not affect the health and safety of environmental justice communities. With mitigation, impacts to minority and low-income populations would not be discernable. Therefore, Alternatives A and B would result in indirect, short-term, negligible, adverse impacts to environmental justice communities.

Environmental contamination, including ACM, LBP, PCBs, mercury-containing materials, and fly-ash, would be removed during building demolition, rehabilitation, and construction and disposed of

in accordance with RCRA and NESHAP at an EPA-approved landfill. Removing these hazardous materials, Alternatives A and B would have a positive impact on environmental conditions and human health; however, these benefits may not be detectable in the community outside the West Campus.

Mitigation Measures

No mitigation measures, other than those described for individual environmental resources, are proposed for environmental justice impacts under the No Action Alternative or Alternatives A and B.

4.4.4 Economy, Employment, and Income

Assessment Methodology

Proposed development on the West Campus could affect economic conditions within the District of Columbia, Maryland, Virginia, and West Virginia. To evaluate the regional economic impact of constructing and rehabilitating buildings on the West Campus, the U.S. Department of Commerce (DOC) Bureau of Economic Analysis’ (BEA) Regional Input-Output Modeling System (RIMS II) was applied (BEA, 2016). To estimate the inter-industry relationships within the District of Columbia and the nearby States and municipalities, the RIMS II model estimates the flow of dollars resulting from expenditures on demolition, building rehabilitation, and new construction for the proposed redevelopment of the West Campus.

RIMS II is based on an accounting framework called an Input-Output table. For each industry, the Input-Output table shows the distribution of the inputs purchased and the outputs sold. The model is widely used in both the public and private sectors for assessing the economic impact of alternative capital investment projects such as the proposed development on the West Campus.

In this analysis, impacts are based on additional spending infused into an economy as a result of construction and renovation expenditures. The expenditures are new dollars spent in the economy as a result of the construction and renovation only.

The impact thresholds for economy, employment, and income are provided in Table 4-19.

Table 4-19 Impact Intensity Thresholds for Economy, Employment, and Income

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable decreases in spending,	Slight, but detectable decreases in spending,	Effect that is potentially major but with mitigation	Substantial decreases in spending, employment levels or personal income

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
	employment levels, or personal income	employment levels, or personal income	measures is reduced below major	
Geographic Context	Regional	Regional	Regional	Regional
Duration	Temporary, lasting only through construction	Temporary, lasting only through construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct and Indirect Impacts

The 2008 EIS, using the RIMS II model, determined that the expenditure of funds for construction of the West Campus would result in beneficial impacts to the economy, employment, and revenue of the region. Current development costs for the No Action Alternative have not been estimated but have likely increased since 2008 due to inflation and other factors. The expenditure of capital for the proposed development on the plateau site would be a substantial increase in spending and would result in beneficial impacts to the economy, employment, and income.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

The estimated expenditures for development of the plateau and Sweetgum Lane sites under Alternatives A and B are \$875 million. The RIMS II model estimates that construction expenditures would result in direct employment opportunities for approximately 8,255 people in the region. This employment arises from people within the construction/renovation industry working at the West Campus and those people who owe their jobs to the purchases made by the construction companies and people working at the construction location. As a direct result of the hiring of 8,255 employees in the region, the economy would gain payroll earnings of approximately \$409 million during construction and renovation of the West Campus. Total output from direct and indirect spending under the action alternatives during construction and renovation of the West Campus in the broader DC-MD-VA-WV region would total up to \$2.2 billion (Table 4-20). This economic benefit goes directly to the broader DC-MD-VA-WV region. A beneficial impact would occur from the substantial increase in employment and personal income.

Indirect Impacts

Indirect impacts as a result of construction and renovation only, as estimated with the RIMS II model, are shown in Table 4-20. This table shows industry-specific outputs as a result of spending (hard costs) on construction totaling \$1.3 billion. This accounts for approximately 0.25 percent of

the regional gross domestic product (GDP). This secondary spending under Alternatives A and B would result in indirect, long-term, minor, impact to the economy as it would account for a slight, but detectable, addition to the regional GDP.

Table 4-20 Industry Impacts for DC-MD-VA-WV (thousands of dollars) for Alternatives A and B (construction and renovation only)

Industry	Direct	Indirect ^a	Total Impact: Direct and Indirect	Share of Total (percent)
Agriculture, forestry, fishing, and hunting	\$0	\$175	\$175	<0.1
Mining	\$0	\$5,250	\$5,250	0.2
Utilities	\$0	\$6,213	\$6,213	0.3
Construction	\$875,000	\$878,763	\$1,753,763	79.4
Durable goods manufacturing	\$0	\$31,413	\$31,413	1.4
Nondurable goods manufacturing	\$0	\$13,300	\$13,300	0.6
Wholesale trade	\$0	\$23,363	\$23,363	1.1
Retail trade	\$0	\$61,688	\$61,688	2.8
Transportation and warehousing	\$0	\$14,263	\$14,263	0.6
Information	\$0	\$24,850	\$24,850	1.1
Finance and insurance	\$0	\$37,363	\$37,363	1.7
Real estate and rental and leasing	\$0	\$81,638	\$81,638	3.7
Professional, scientific, and technical services	\$0	\$45,238	\$45,238	2.0
Management of companies and enterprises	\$0	\$7,350	\$7,350	0.3
Administrative and waste management services	\$0	\$15,400	\$15,400	0.7
Educational services	\$0	\$6,125	\$6,125	0.3
Health care and social assistance	\$0	\$35,788	\$35,788	1.6
Arts, entertainment, and recreation	\$0	\$4,900	\$4,900	0.2
Accommodation	\$0	\$6,650	\$6,650	0.3
Food services and drinking places	\$0	\$15,225	\$15,225	0.7
Other services	\$0	\$19,250	\$19,250	0.9
TOTAL	\$875,000	\$1,334,200	\$2,209,025	100

Source: Simulations generated using the DOC BEA RIMS II Input-Output Model

Note: a. Total amount spent across all industries as a result of the dollars spent in the construction industry

Mitigation Measures

Under the No Action and under Alternatives A and B, GSA would encourage construction contractors working on the West Campus redevelopment to work with the DC Department of Employment Services and other workforce development and training organizations to assist in meeting the goals of the St. Elizabeths project’s small business and hiring efforts. As with past activities on the West Campus, GSA would share the posting of employment and small business opportunities via email group and the St. Elizabeths website (www.stelizabethsdevelopment.com). GSA would continue to hold monthly community meetings with various community stakeholders (e.g., workforce development, Advisory Neighborhood Commissioners, District Government, DHS, USCG representatives, local small businesses, and general contractors) to distribute information regarding upcoming opportunities.

4.4.5 Taxes and Revenue

Assessment Methodology

The alternatives were qualitatively assessed to determine if they would result in changes to Federal and District of Columbia taxes and revenues.

The impact thresholds for taxes and revenues are provided in Table 4-21.

Table 4-21 Impact Intensity Thresholds for Taxes and Revenues

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes in taxes and revenue	Slight, but detectable decreases in tax revenues Slight, but detectable increases in taxes that would not affect the affordability of food, necessities, or housing	Effect that is potentially major but with mitigation measures is reduced below major	Highly noticeable decreases in tax revenues Highly noticeable increases in taxes that would have a severe effect on the affordability of food, necessities, or housing
Geographic Context	Regional	Regional	Regional	Regional
Duration	Temporary, lasting only through construction	Lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Federal properties are not subject to real property taxes, and the proposed improvements within the plateau site would be federally owned. Therefore, there would be no direct impacts to taxes and revenue under the No Action Alternative.

Indirect Impacts

The No Action Alternative would result in beneficial impacts to taxes and revenue. Under the No Action Alternative, construction and renovation activities would require the purchase of materials and supplies; this would result in increased sales tax revenues in the NCR. Additionally, construction workers hired for the project would provide income tax revenue to the local, state, and Federal government. The increase in tax revenue would be temporary and occur during the duration of construction. Therefore, the No Action Alternative would result in beneficial impact to taxes and revenue because there would be a slight, but detectable increase in sales and income tax revenues. The small, temporary change in taxes would not affect the affordability of food, basic necessities, or housing.

Most employees at DHS currently work and live within the NCR and are not expected to relocate to the area from outside the region; however, a small number of employees may relocate to the area and resulting in an increase in taxes and revenue.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Federal properties are not subject to real property taxes, and the proposed improvements within the plateau site and the Sweetgum Lane site would be federally owned. Therefore, there would be no direct impacts to taxes and revenue under Alternatives A and B.

Indirect Impacts

As with the No Action Alternative, redevelopment of the West Campus under the action alternatives may potentially generate sales tax in the NCR from the purchase of materials, equipment, and supplies necessary for construction. Additionally, construction workers would be hired for the completion of the redevelopment, providing income tax revenue to local, state, and Federal governments. This increase in sales and income tax revenue would be temporary and limited to the duration of construction. Alternatives A and B would result in a beneficial impact to taxes and revenue because there would be a slight, but detectable, increase in sales and income tax revenues.

The small, temporary change in taxes would not affect the affordability of food, basic necessities, or housing.

Most employees at DHS currently work and live within the NCR and are not expected to relocate to the area from outside the region; however, a small number of employees may relocate to the area, resulting in an increase in taxes and revenue.

Mitigation Measures

No mitigation measures are proposed for taxes and revenue under the No Action Alternative or Alternatives A and B.

4.4.6 Community Services

Assessment Methodology

The alternatives were qualitatively assessed to determine if they would result in changes to community services through the increase or decrease in availability and use of these services.

The impact thresholds for community services are provided in Table 4-22.

Table 4-22 Impact Intensity Thresholds for Community Services

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable increases in use of services which would not affect service provider’s ability to provide services	Slight, but detectable increases in use of services may occur, but these increases would not affect service provider’s ability to provide services	Effect that is potentially major but with mitigation measures is reduced below major	Significant increases in calls for service would occur, and these increases could result in unacceptable response times for services
Geographic Context	Regional	Regional	Regional	Regional
Duration	Lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

The No Action Alternative would not relocate or disrupt any community services or affect service provider's ability to provide services. The West Campus is a secured facility and would have its own security force. Unrestricted public access to the West Campus would not be permitted due to security requirements for the DHS Headquarters. Development on the plateau site would be within the existing security fences on the West Campus. Therefore, there would be no direct impact to community services under the No Action Alternative.

Indirect Impacts

Development under the No Action Alternative would increase the number of employees at the West Campus. This increased workforce and commuters would rely on public transportation and local emergency services. The No Action Alternative could result in an increased demand on these services. Transportation analyses conducted for this Supplemental EIS and included in Appendix D estimate that approximately 8 percent of employees would utilize commuter/express buses, 6 percent of employees would utilize Metrobuses, and 30 percent of employees would utilize Metrorail. Impacts on transit are described in Section 4.7.

Emergency service providers would potentially field emergency calls from the West Campus. Because the Federal Government provides site security, few calls for police service are anticipated. There may be calls for DC EMS or fire department service. While the exact number of potential service calls originating from the proposed development is not known, in 2018, DC Fire and EMS fielded 0.3 calls per capita. Using this figure to estimate potential calls, the No Action Alternative could generate up to 100 calls per month. The United Medical Center may be used to provide emergency medical services to employees during emergencies. The United Medical Center is slated to close by 2023 (Jamison, 2019); however, DC has signed a letter of intent with George Washington Hospital to build a new community hospital and health services complex on the East Campus, which would increase health service capacity (DC and District Hospital Partners, 2018).

Under the No Action Alternative, there would be a slight, but detectable, increase in emergency calls that would not affect the provider's ability to provide service. Therefore, the No Action Alternative would result in indirect, long-term, minor, adverse impacts to community services because there would be a modest increase in calls for service.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

The West Campus is a secure government facility that maintains its own guard force. Under the action alternatives, facilities that would be constructed would use the existing security force on campus. Security requirements for the DHS Headquarters would not permit unrestricted public access. No community services would be relocated, nor would they have their service interrupted as a result of Alternatives A and B. Therefore, there would be no direct impact to community services under the action alternatives.

Indirect Impacts

Development proposed under Alternatives A and B would result in an increase in the number of employees at the campus. This increased workforce and commuters would rely on public transportation and local emergency services. Alternatives A and B could result in an increased demand on these services. Transportation analyses conducted for this Supplemental EIS estimate that approximately 8 percent of employees would utilize commuter/express buses, 6 percent of employees would utilize Metrobuses, and 30 percent of employees would utilize Metrorail. Impacts on transit are described in Section 4.7.

Emergency service providers would potentially field emergency calls from the West Campus. Because the Federal Government provides site security, few calls for police service are anticipated. There may be calls for DC EMS or fire department service. While the exact number of potential service calls originating from the proposed development is not known, in 2018, DC Fire and EMS fielded 0.3 calls per capita. Using this figure to estimate potential calls, the action alternatives could generate up to 100 calls per month. The United Medical Center may be used to provide emergency medical services to employees during emergencies. The United Medical Center is slated to close by 2023 (Jamison, 2019); however, DC has signed a letter of intent with George Washington Hospital to build a new community hospital and health services complex on the East Campus, which would increase health service capacity (DC and District Hospital Partners, 2018).

Under Alternatives A and B, there would be a slight, but detectable, increase in emergency calls that would not affect the provider's ability to provide service. Therefore, Alternatives A and B would result in indirect, long-term, minor, adverse impacts to community services because there would be a modest increase in calls for service.

Mitigation Measures

No mitigation measures are proposed for community services under the No Action Alternative or Alternatives A and B.

4.4.7 Community Facilities

Assessment Methodology

The alternatives were qualitatively assessed to determine if they would result in changes to community facilities through the increase or decrease in availability and use of these facilities.

The impact thresholds for community facilities are provided in Table 4-23.

Table 4-23 Impact Intensity Thresholds for Community Facilities

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable increases in use of community facilities	Slight, but detectable increases in the use of community facilities may occur, but these increases would not affect access to the facilities or their programs	Effect that is potentially major but with mitigation measures is reduced below major	Significant increases in the use of community facilities would occur, and these increases would result in lack of access to the facilities or their programs
Geographic Context	Regional	Regional	Regional	Regional
Duration	Lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Under the No Action Alternative, community facilities, including libraries, public schools, childcare facilities, parks and recreation facilities, and religious facilities, would not be directly closed or relocated. Therefore, the No Action Alternative would not result in direct impacts to community facilities.

Indirect Impacts

Under the No Action Alternative, libraries, public schools, childcare facilities, parks and recreation facilities, and religious facilities may receive visitors from the campus. Because most employees working at the new facilities are not anticipated to relocate to the communities surrounding the

West Campus and because there is a child daycare center located on the West Campus, only a non-discernable increase in community facility use is anticipated. Access to these facilities would not be affected by this increase in use. Therefore, the No Action Alternative would result in an indirect, negligible, long-term, adverse impact to community facilities because uses of community facilities would increase, but these increases would be small and may not be detectable.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Alternatives A and B would not displace any community service facility during the redevelopment of the plateau and Sweetgum Lane sites within the West Campus. Childcare would be provided on campus by the Federal government. Unrestricted public access to the West Campus would be prohibited due to DHS Headquarters security measures; this would not be a change from current operations at the West Campus. Therefore, the action alternatives would not result in direct impacts to community services including libraries, public schools, childcare facilities, parks and recreation facilities, and religious facilities.

Indirect Impacts

Under the action alternatives, libraries, public schools, childcare facilities, parks and recreation facilities, and religious facilities may receive visitors from the campus. Because most employees working at the new facilities are not anticipated to relocate to the communities surrounding the West Campus and because there is a child daycare center located on the West Campus, only a non-discernable increase in community facility use is anticipated. Access to these facilities would not be affected by this increase in use. Therefore, Alternatives A and B would result in an indirect, negligible, long-term, adverse impact to community facilities because uses of community facilities would increase, but these increases would be small and may not be detectable.

Mitigation Measures

No mitigation measures are proposed for community facilities under the No Action Alternative or Alternatives A and B.

4.5 AIR QUALITY

Assessment Methodology

The environmental impacts on local and regional air quality conditions near a proposed action are determined based on increases in regulated pollutant emissions compared to existing conditions and ambient air quality. General conformity applicability analysis requires quantification of direct and indirect construction and operation emissions for the project in tons per year (tpy) and comparison of those emission levels to baseline emission levels. An action is exempt from further general conformity analysis (i.e., the action is presumed to conform) if the total net project-related emissions (construction and operation) would be less than the *de minimis* thresholds provided in 40 CFR 93.153(b). If the net emissions increases associated with the project exceed the applicable general conformity *de minimis* levels for the peak year or any milestone year for attainment of NAAQS, a formal general conformity demonstration is required. An action that would produce emissions that exceed conformity thresholds is required to demonstrate conformity with the SIP through mitigation or other accepted practices.

This section provides an analysis of potential air quality impacts associated with emissions from demolition, construction, facility operation, and traffic associated with the No Action Alternative, Alternative A, and Alternative B. The analysis is summarized from the Air Quality Technical Report in Appendix C (Jacobs, 2019a). For the purposes of the analysis, the Air Quality Technical Report used Alternative Concept B of Master Plan Amendment 1 from the 2012 EIS (i.e., the 2012 Preferred Alternative) as the baseline scenario. The analysis presented in this section therefore evaluates whether the changes proposed in Master Plan Amendment 2 under the No Action Alternative, Alternative A, and Alternative B would cause additional adverse air quality impacts compared to Master Plan Amendment 1. The No Action Alternative assumes GSA would develop the West Campus as described in the Master Plan as approved by NCPC on January 8, 2009, and that the East Campus North Parcel would not be developed, as proposed in the 2012 Preferred Alternative (GSA, 2012a).

The impact thresholds for air quality are provided in Table 4-24.

Table 4-24 Impact Intensity Thresholds for Air Quality

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts to air quality from construction-related emissions Air quality impacts would conform with NAAQS	Slight, but detectable impacts to air quality from construction-related emissions Slight, but detectable impacts to air quality from stationary and/or mobile source emissions during operation Air quality impacts would conform with NAAQS	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable impacts to air quality from stationary and/or mobile source emissions during operation Air quality impacts would result in violation of NAAQS
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary, lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

Summary of Air Quality Impacts from Master Plan Amendment 1

Air quality impacts for the baseline scenario are described in detail in the 2012 EIS beginning on page 5-128 in Section 5.5 (GSA, 2012a). The 2012 EIS provided that:

- East Campus North Parcel site development would result in short- and long-term, minor, adverse impacts to air quality from construction activities and new stationary sources.
- Construction of proposed roadways and increases in traffic volumes would also result in short- and long-term, minor, adverse impacts to air quality.
- Implementing the site development and transportation improvements would result in overall short- and long-term, minor, adverse impacts to air quality (GSA, 2012a).

No Action Alternative

Air quality impacts under the No Action Alternative would be less than the impacts described for Master Plan Amendment 1 in the 2012 EIS due to the elimination of the East Campus North Parcel site development. However, short- and long-term adverse impacts to air quality from continued development and operation of the West Campus and construction of proposed roadway improvements would remain minor due to increases in traffic volumes and the associated increase in localized mobile source emissions.

Alternative A and Alternative B (Preferred Alternative)

The following sections provide impact evaluation for short-term and long-term emissions associated with construction, demolition, facility operation, and traffic associated with Master Plan Amendment 2, Alternatives A and B. Because the only difference between Alternatives A and B are the building development locations within the plateau and Sweetgum Lane sites on West Campus, the construction and operation emissions and the associated air quality impacts are expected to be similar. In comparison to the impacts identified for Master Plan Amendment 1 presented in the 2012 EIS, this air quality evaluation concludes that Alternative A and B would not create additional adverse air quality impacts from stationary or mobile source emissions.

Short-term Construction

Construction at the plateau and Sweetgum Lane sites would result in temporary exhaust emissions from fuel combustion in motor vehicles and construction equipment and fugitive particulate matter emissions from soil disturbance, earthwork, and other construction activities. Alternatives A and B would result in lower construction emissions compared to Master Plan Amendment 1 due to the elimination of construction activities at East Campus, the reduced size and extent of total building and parking space development, and the reduced size and extent of building demolition. The Friendship Technology Preparatory High School and the Friendship Public Charter School Elementary School are 150 feet and 350 feet south of Buildings 68 and 69, respectively. Residential structures on Lebaum Street SE are located approximately 400 feet south of Building 68 and 69. Buildings 68 and 69 would be demolished under each of the action alternatives creating dust and particulate matter that, with appropriate mitigation, would be slight but detectable, resulting in minor, short-term, adverse impacts to the schools and residences. In addition, air quality impacts from the construction of Building A3 under Alternative A or construction of Building B2 under Alternative B would be slight but detectable, resulting in minor, short-term, adverse impacts to the Friendship Technology Preparatory High School, the Friendship Public Charter School Elementary School, and the residences along Lebaum Street SE.

Transportation improvements proposed under Master Plan Amendment 2 for the roadways and intersections outside the West Campus would require minimal construction activities. These improvements would largely rely on lane re-configuration, signal phasing changes, signal timing changes, and relocation of shuttle stops. None of the proposed transportation improvements would substantially increase the amount of construction equipment in use. Therefore, construction activities associated with transportation improvements for Master Plan Amendment 2 would be minimal compared to the proposed building and parking structure construction activities at the West

Campus and would not substantially add to the construction-related air quality impacts previously discussed.

No additional adverse air quality impacts would be associated with Master Plan Amendment 2. The project would comply with Federal and District regulations including the EPA's emission standards for on-road vehicles and off-road construction equipment and the DCMR Chapter 20-9: Motor vehicular Pollutants, Lead, Odors, and Nuisance Pollutants. Emissions from construction activities at the plateau and Sweetgum Lane sites, and from proposed transportation improvements, would be detectable, but the best practices provided below in the mitigation measures section would be implemented to avoid or minimize air quality impacts from temporary construction emissions. Therefore, Master Plan Amendment 2 would result in overall short-term, minor, adverse impacts to air quality.

Long-Term Operation—Stationary Sources

As previously stated in Chapter 3, GSA currently operates a CUP and MUP to support the West Campus heating, cooling, and emergency power needs. The CUP and MUP are operating under a Title V operating permit pursuant to Chapters 20-2 and 20-3 of the DCMR. Heating, cooling, and emergency power needs at the plateau and Sweetgum Lane sites would be met by the existing equipment and operational capacity at the CUP. Operation of the CUP equipment would continue to comply with applicable EPA and DCMR requirements for emission control, monitoring, reporting, and record keeping. Long-term, minor, adverse impacts to air quality are anticipated from stationary sources under Master Plan Amendment 2 that would be detectable, but no new stationary sources emissions would be generated in addition to those analyzed in the 2012 EIS for the West Campus development.

Long-Term Operation—Mobile Sources

Vehicles affect air quality by emitting airborne pollutants. Changes in traffic volumes, travel patterns, and roadway locations affect air quality by changing the number of vehicles and the congestion levels in a given area. At a regional scale, the overall number of vehicles traveling to or from St. Elizabeths would be the same compared to Master Plan Amendment 1 as travel distances for commute and service vehicles would be similar. Therefore, vehicle emissions associated with Master Plan Amendment 2 would not cause additional adverse impacts to regional air quality.

Although the overall vehicle emissions at the regional scale would be the same as Master Plan Amendment 1, some of the vehicles that would have traveled to and from the East Campus under Master Plan Amendment 1 would take different routes under Master Plan Amendment 2 to access

the West Campus. Increased numbers of vehicles using roadways near the West Campus could potentially cause localized air quality impacts. Accumulation of localized CO emissions from vehicles would likely occur at intersections with increased traffic congestion such as intersections with LOS worse than D. The definitions of LOS for different facilities are provided in Chapter 2 of the TTR in Appendix D.

As shown in Table 4-31 and Table 4-32, traffic conditions at most of the intersections near West Campus during AM and PM peak hours would not deteriorate with implementation of Master Plan Amendment 2 as compared to traffic conditions under Master Plan Amendment 1. Out of the 38 signalized intersections in 2035 under Alternatives A and B in the Transportation Study Area, 26 intersections would operate at LOS A, B, or C and are not expected to cause localized CO hot spots (EPA, 1992); or have the same or slightly better LOS than the traffic conditions at these intersections compared to Master Plan Amendment 1, indicating that Master Plan Amendment 2 would not cause additional localized CO impacts.

Deteriorated traffic conditions of LOS D, E, or F would occur during morning or evening peak hours at 12 intersections under Alternatives A and B compared to the conditions at these intersections under Master Plan Amendment 1. Among these intersections, the worst-case LOS and traffic volume would occur at the Martin Luther King Jr. Avenue SE/South Capitol Street SE/Halley Place SE intersection, which would have traffic volume of 3,605 and a LOS F during morning peak hour in 2035 as shown in the TTR (Appendix D). The remaining 11 intersections would have lower volume and LOS D or E during peak hours.

Detailed CO hot spot modeling was performed for Master Plan Amendment 1 for intersections that would operate at LOS F, including the intersection at Suitland Parkway and Stanton Road SE, which has a traffic volume over 4,000 during peak hours. Master Plan Amendment 1 demonstrated that CO NAAQS would not be violated at the modeled intersection. The Martin Luther King Jr. Avenue SE/South Capitol Street SE/Halley Place SE intersection would have the same LOS but lower traffic volume than the Suitland Parkway and Stanton Road SE intersection conditions as analyzed for Master Plan Amendment 1; therefore, CO NAAQS violation is not expected at this intersection under Master Plan Amendment 2. Similarly, the other 11 intersections with better LOS and lower traffic volume than the Martin Luther King Jr. Avenue SE/South Capitol Street SE/Halley Place SE intersection would have even lower CO impacts. As such, Master Plan Amendment 2 is not expected to cause localized CO impacts that would violate the CO NAAQS.

Localized particulate matter emissions tend to accumulate at locations with substantial diesel truck traffic, but this type of truck traffic is not anticipated to occur on roadways and intersections near the West Campus. According to EPA's Transportation Conformity Guidance for Quantitative Hot-

Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas, PM hot spots usually occur at locations with significant amounts of diesel trucks such as a new or expanded highway with an average daily truck traffic volume over 10,000, or locations with a significant number of diesel vehicles congregating at a single location (EPA, 2015). Diesel trucks account for less than 6.5 percent of the vehicle travel on major arterials in the Transportation Study Area. Master Plan Amendment 2 would not introduce additional diesel truck traffic to the project area; therefore, Master Plan Amendment 2 is not expected to cause violations of the PM NAAQS.

Mobile Source Air Toxics

Potential MSAT effects from the vehicle emissions associated with Master Plan Amendment 2 were evaluated following the FHWA memorandum titled *Updated Interim Guidance on Air Toxic Analysis in NEPA Documents (Guidance)* (FHWA, 2016). According to the *Guidance*, Master Plan Amendment 2 would be considered a project with no meaningful potential of MSAT effects because it does not involve any highway expansion or increase of roadway capacity.

Master Plan Amendment 2 would not attract additional vehicles traveling from elsewhere to the project area to cause additional adverse MSAT impacts compared to Master Plan Amendment 1.

General Conformity

Master Plan Amendment 2 would be implemented in the District, which is currently designated as marginal nonattainment for the 8-hour O₃ NAAQS. Therefore, the project is subject to general conformity requirements for O₃ and the O₃ precursor pollutants, volatile organic compounds (VOCs), and nitrogen oxides (NO_x).

The EPA Final Conformity Rule requires that total direct and indirect emissions of nonattainment and maintenance criteria pollutants and their precursors be considered in determining conformity.

Table 4-25 presents the *de minimis* thresholds for nonattainment areas for O₃ and its precursor pollutants. If the emissions associated with a Federal action, such as implementation of Master Plan Amendment 2, would be less than the applicable *de minimis* thresholds, a detailed conformity analysis is not required, pursuant to 40 CFR 93.153(c). The applicable *de minimis* thresholds for Master Plan Amendment 2 are 100 tpy for NO_x and 50 tpy for VOCs.

Table 4-25 De Minimis Thresholds in Nonattainment Areas

Pollutant	Degree of Nonattainment	<i>de minimis</i> Threshold ^a (tpy)
O ₃ (VOCs and NO _x)	Serious	50
	Severe	25
	Extreme	10
	Other O ₃ —outside an O ₃ transport region	100
O ₃ (VOCs)	Marginal and moderate—inside an O ₃ transport region	50
O ₃ (NO _x)	Marginal and moderate—inside an O ₃ transport region	100

Source: 40 CFR 93.153(b)

^a **Bold** values reflect *de minimis* thresholds used in this analysis

As discussed previously, emissions from stationary sources are not expected to increase compared to Master Plan Amendment 1 because the existing CUP would support development at the plateau and Sweetgum Lane sites. Emissions generated during construction at the plateau and Sweetgum Lane sites would be lower than those described for Master Plan Amendment 1. Similarly, emissions from commuter and service vehicles would be similar or lower than those described for Master Plan Amendment 1. The 2012 EIS demonstrated that total project-related emissions of NO_x and VOC from construction and operations under Master Plan Amendment 1 would be below the general conformity *de minimis* thresholds. As a result, the total VOC and NO_x emissions from Master Plan Amendment 2 would also be below the applicable *de minimis* thresholds, and the project would be assumed to conform. Further conformity analysis is not required.

Greenhouse Gases

GHG emissions would be generated during construction under Alternatives A and B from fuel combustion in equipment and vehicles. As a result of the reduced building and parking development under Master Plan Amendment 2, GHG emissions from construction are expected to be lower than those from Master Plan Amendment 1.

GHG emissions from employee commuter and delivery/service vehicles would be similar to those associated with Master Plan Amendment 1. Also, GHG emissions from stationary sources under Master Plan Amendment 2 are not expected to increase compared to Master Plan Amendment 1 because the existing CUP would provide the heating, cooling, and emergency power needs of proposed facilities at the plateau and Sweetgum Lane sites.

Construction and operation of Master Plan Amendment 2 would not cause GHG emissions to increase compared to Master Plan Amendment 1. The reduced construction activities and the ability of the CUP to meet demand would likely reduce GHG emissions when compared to Master Plan Amendment 1, which would be beneficial for the region, supporting goals to reduce GHG emissions by 50 percent below 2006 levels by 2032 and 80 percent by 2050, as defined in the Sustainable DC Plan (DOEE, 2013b). The GHG emission reduction strategies discussed in Section 5.5.2.2 of the 2012 EIS, would still be implemented for Master Plan Amendment 2. Examples of the possible GHG reduction strategies include transitioning to high-performance buildings, using all resources more efficiently, incorporating green roofs and photovoltaic arrays, and installing energy-efficient HVAC systems (GSA, 2012a).

Overall, implementation of Master Plan Amendment 2, Alternative A or B, would result in long-term, minor, adverse impacts to air quality that would be detectable from operation of the CUP and increases in traffic volumes on roadways in the vicinity that would generate mobile source emissions.

Mitigation Measures

The best practices provided in Section 5.5.4 of the 2012 EIS to address air quality impacts remain applicable to Master Plan Amendment 2 and include the following:

- Taking precautionary dust-suppression measures aimed at minimizing short-term increases in dust particulates during construction
- Ensuring construction equipment meets emissions standards
- Certifying the absence of asbestos-containing materials before the demolition of buildings
- Fully evaluating crushing operations for control of fugitive emissions and permitting requirements
- Complying with anti-idling regulations in the District of Columbia
- Conducting air quality monitoring during demolition, site grading, and excavation activities

No best practices or mitigation measures for air quality would be required for the implementation of proposed transportation improvements.

4.6 NOISE

Assessment Methodology

This section summarizes the noise impact assessment from the Noise Quality Technical Report (Appendix C) (Jacobs, 2019b). For the purpose of traffic noise analysis, the use of a property adjacent to construction areas and transportation improvement were classified according to the

human activities that occur, or are expected to occur, within the property boundaries. Noise abatement was considered when a traffic noise impact is predicted. Traffic noise impacts occur when the predicted existing or future highway traffic noise levels approach or exceed the noise abatement criteria (NAC), or when predicted existing or future highway traffic noise levels substantially exceed the existing highway traffic noise level, even though the predicted level may not exceed the NAC. The term “approach” is considered to be 1 dBA less than the appropriate NAC. The NAC for residential land uses is 67 dBA.

To evaluate whether the conclusions reached in the 2012 EIS would be altered as a result of the changes associated with Master Plan Amendment 2, a qualitative analysis of the components of the noise analysis has been conducted. This includes a comparison of noise-sensitive land uses, roadway configurations, and vehicle volumes/speeds/types. If substantial differences were to result, a more detailed analysis would have to be performed. If no substantial changes are identified, the traffic noise environment can be said to be unaffected, or minimally affected, by Master Plan Amendment 2. Additionally, changes in operational and construction noise were assessed.

The impact thresholds for noise are provided in Table 4-26.

Table 4-26 Impact Intensity Thresholds for Noise

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable increases in noise levels from construction related activities or facilities operations Noise impacts would conform with District noise regulations	Slight, but detectable increases in noise levels from construction related activities or facilities operations Noise impacts would conform with District noise regulations	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable increases in noise levels from construction related activities or facilities operations that affect noise sensitive receptors Noise impacts would violate District noise regulations
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary, lasting through construction or lasting 1+ years after construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

Summary of Previous Noise Analyses

2008 Noise Analysis

As discussed in Section 3.6, a noise analysis for the West Campus was included in the 2008 EIS. The 2008 EIS future condition for the noise modeling was established to be 2015. The report analyzed noise levels for all alternatives/options and concluded that noise was virtually identical (no more than a 1 dBA difference) among the alternatives. These 2008 EIS modeling results are summarized in Table 4-27.

Table 4-27 Noise Level Modeling Results 2008 EIS Noise Analysis (dBA)

Receptor Location	Existing (2008) Noise Levels	No-Build (2015) Noise Levels	Build (2015) Noise Levels
1—Rowhomes—Malcolm X Avenue SE	66	68	70
2—Rowhomes—Malcolm X Avenue SE	66	68	71
3—Rowhomes—Malcolm X Avenue SE	50	53	55
4—Rowhomes—Malcolm X Avenue SE	51	54	55
5—Chapel—East Campus	51	52	56
6—Rowhomes - Martin Luther King Jr. Avenue SE	67	69	70
7—Multi-Family Residences—Barry Farm	59	59	60
8—Barry Farm Recreation Center	70	70	71
9—Multi-Family Residences—Barry Farm	66	68	70
10—Cemetery—West Campus	68	71	73
11—Multi-Family Residences—Second Street	55	57	58

The 2008 EIS reported that the alternatives would alter traffic patterns, increase traffic volumes, and result in several million square feet of new development. In comparison to FHWA’s NAC, the 2008 noise analysis concludes that none of the alternatives result in new noise impacts. The maximum increases associated with the West Campus alternatives are 5 dBA over existing conditions. Most of the noise increases are much smaller (Table 4-27). Overall, the noise increases are described as imperceptible and negligible. Indirect and cumulative impacts were reported to be negligible.

2012 Noise Analysis

In the 2012 EIS, alternatives were modeled to determine impacts, and overall, noise impacts associated with the 2012 EIS Preferred Alternative were described as “short- and long-term, minor

and adverse” under NEPA but not warranting a noise impact relative to the FHWA NAC. These impacts are summarized in Table 4-28.

Table 4-28 Noise Level Modeling Results - 2012 EIS (dBA)

Receptor Location	Existing (2012) Noise Levels	No-Build (2035) Noise Levels	Build (2035) Noise Levels
M-01—I-295/Malcolm X Avenue SE	58	59	60
M-02—I-295/Malcolm X Avenue SE	57	57	58
M-03—West Campus (Gate 4)	48	49	50
M-04—Multi-Family Residences—Barry Farm	65	65	65
M-05—Multi-Family Residences—Barry Farm	64	64	64
M-06—Multi-Family Residences—Barry Farm	53	53	54
M-07—East Campus (North Parcel)	54	57	58
M-08—East Campus (North Parcel)	49	48	48

The 2012 EIS concluded that the alternatives would result in no new traffic noise impacts and that the difference in noise levels would be barely perceptible.

Evaluation of Noise-Sensitive Land-Use Changes

Existing and planned land uses within the project area have only modestly changed since the noise evaluations conducted during the 2008 EIS and 2012 EIS. Among the new land uses, no activities dependent on a quiet atmosphere are present, and no additional noise impacts are expected.

Analysis of Roadway Configuration

This section compares the roadway configuration used in the 2012 EIS noise analysis with the roadway configuration proposed for Master Plan Amendment 2. The changes were examined to determine if noise impacts might change from those presented in the 2012 EIS. This analysis uses the transportation projections for 2035, which has been determined to be the foreseeable project horizon.

Review of Roadway Configuration/Land-Use Assumptions in Master Plan Amendment 2

Master Plan Amendment 2 includes changes to the transportation infrastructure due to the additional parking required on the West Campus. These new transportation improvements could affect the noise environment. Additionally, Master Plan Amendment 2 includes updates to the land-

use assumptions that were used to assess impacts in the 2012 EIS. These changes could also potentially affect the noise environment.

As a result of an updated traffic analysis, additional transportation improvements were developed to support Master Plan Amendment 2 and mitigate impacts. These include the following:

- A three-lane reversible or four-lane roadway within the West Campus between Gate 1 and the security gates for the Gate 1 garage
- Lane configuration improvements, signal phasing changes, and signal timing changes at the intersection of Gate 1 and Martin Luther King Jr. Avenue SE
- The addition of a protected turn phase for northbound left turns at the intersection of Sumner Road SE and Martin Luther King Jr. Avenue SE
- The relocation of the proposed Pecan Street/Congress Heights Metrorail Station shuttle; the shuttle will support the transit mode share goals for the West Campus.

Transportation/Land-Use Assumptions Associated with Master Plan Amendment 2

In addition to the new/modified roadway configurations, Master Plan Amendment 2 has the potential to alter the noise environment through the associated transportation and land-use assumptions. Changes of this type have the potential to affect noise levels in different areas and need to be analyzed against the conditions assumed in the 2012 EIS.

Evaluation of Roadway Configuration Changes

The changes associated with Master Plan Amendment 2 are not expected to materially change the roadway configuration in the vicinity of the noise-sensitive land uses. Consequently, Master Plan Amendment 2 will not affect the noise environment. The changes are evaluated below:

- At Gate 1 more users are predicted. Modifications would be needed to the Gate 1 garage design so that traffic exiting the garage in the PM peak hour does not queue back into the garage. Since there are no noise-sensitive land uses in this area, changes to the operations at this gate would not result in noise impacts.
- Master Plan Amendment 2 would add a protected turn phase for northbound left turns at the intersection of Sumner Road SE and Martin Luther King Jr. Avenue SE. The change in lane configuration does not result in traffic moving closer to sensitive receptors, therefore an increase in noise due to the roadway reconfiguration would not occur.
- While the preferred shuttle option from the Congress Heights Metro Station to the east side of the West Campus has not been selected, the project is expected to support the

effectiveness of transit for users. Regardless of the preferred alternative, the impact to traffic noise is expected to be minimal. The change is expected to mostly affect the DC Gateway Pavilion in the East Campus (on the proposed Sycamore Drive). The uses at the DC Gateway are not dependent on a quiet atmosphere. There are no other sensitive receptors near this area.

Therefore, the proposed transportation changes and lack of changes on noise-sensitive land use would not result in additional noise impacts.

Traffic Noise

Analyses were conducted to determine if the traffic conditions shown in the 2012 EIS would be materially different from the traffic under Master Plan Amendment 2 and, consequently, might alter the traffic noise environment. The type and total number of vehicles along with their speeds affect traffic noise levels.

The traffic conditions identified in the 2012 EIS were compared to traffic conditions for Master Plan Amendment 2 action alternatives which were analyzed in the TTR. The study area for these traffic studies encompasses a total of 46 intersections and freeway segments in the vicinity of the West Campus (Figure 4-1) (Jacobs, 2019c). The traffic analyses assessed intersection LOS and delay, arterial travel times, freeway LOS and densities, and future-year signal timing and optimization.

The comparison of the 2012 EIS traffic conditions and Master Plan Amendment 2 traffic conditions showed that during the PM Peak Hour, LOS at 13 intersections are expected to be poorer under the conditions modeled for Master Plan Amendment 2. Twenty intersections are expected to improve, while 21 show no change. Four intersections are expected to be significantly degraded, and seven are expected to be significantly improved.

During the AM Peak Hour, LOS at 21 intersections are expected to be poorer under the conditions modeled for Master Plan Amendment 2. Eighteen intersections are expected to improve. Fourteen show no change. Six intersections are expected to be significantly degraded, and 11 are expected to be significantly improved.

Overall, intersection operation is expected to modestly improve. This improvement is expected to have a minimal impact on overall noise levels. This is because the potential increases in speed or volume through the intersection would be counterbalanced with the area's low speed limits and the reduced noise from less frequent starting and stopping. Also, small changes in traffic volumes in residential intersections can result in disproportionately large changes in LOS. This small change in

traffic is not expected to change noise levels. A general rule of thumb is that a doubling of traffic results in a 3 dBA change in traffic noise.

The Master Plan Amendment 2 traffic analysis also developed the metrics for representative roadway segments. This included:

- Peak Speeds
- Off-Peak Speeds
- Daily Vehicle Miles Traveled
- Daily Volumes
- Daily Truck Percentages

Analyses show that the differences between the 2012 EIS and Master Plan Amendment 2 are negligible. These small variations will not affect noise levels associated with Master Plan Amendment 2.



Source: Jacobs, 2019c

Figure 4-1 2012 EIS Transportation Analysis Study Area

Arterial travel times and operations were also compared between the 2012 EIS and Master Plan Amendment 2. This analysis shows that operations are roughly equivalent. Three arterial segments are expected to experience a significant improvement. One arterial segment is expected to experience a significant degradation in operation.

The cumulative speed difference is a 29-mph improvement in the AM and 9-mph loss in the PM. However, none of the arterials will achieve their Free Flow Speed¹ in any of the comparisons. Consequently, this improvement is expected to have a minimal impact on overall noise levels. This is because the potential increases in speed or volume through the corridor would be counterbalanced with the area's overall low speed limits and the reduced noise from less frequent starting and stopping.

The maximum improvement is 14 mph. The maximum degradation is 7 mph. In general, traffic at 65 mph sounds twice as loud as highway vehicles traffic at 30 mph. None of the segments are expected to achieve that level of increase in speed.

Analysis of Construction and Operational Noise Changes

Construction noise is composed of the noise generated during the development of the proposed roadways that are part of the project and noise generated by demolition as well as the construction of the proposed buildings on the West Campus. The noise associated with the operation of the buildings is also a component.

Development of the West Campus

The construction of the West Campus was investigated in the 2008 EIS. As a result of the development of West Campus, the noise analysis concluded that the area would experience varied periods and degrees of noise impact. However, construction activity on the West Campus would adhere to the District of Columbia noise regulations. Further, it suggested that the alternatives would result in negligible, direct, long-term increases in noise levels that would be imperceptible, or barely perceptible, to human ears. Because of the minor nature of impacts and existing high levels of urban community and traffic noise, noise increases associated with the project would not result in adverse indirect impacts (GSA, 2008a).

The construction noise impacts for the development of the North Parcel site were described in the 2012 EIS as “short- and long-term, minor, and adverse during construction and operational

¹ Free Flow Speed is the prevailing speed on freeways at flow rates between 0 and 1,000 passenger cars per hour per lane (TRB, 2016)

activities.” Pursuant to Master Plan Amendment 2, there would be no longer be work on the North Parcel/East Campus. However, the noise effects of construction activities described for the North Parcel will be equivalent to the activities that would take place on the West Campus under Master Plan Amendment 2. These effects would primarily be due to heavy equipment noise during construction and the maintenance and use of back-up generators during the operation of the facilities.

As with any major construction project, areas around the construction site are likely to experience varied periods and degrees of noise. Individual pieces of construction equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet. Table 4-29 presents typical noise levels (dBA at 50 feet) that the FHWA uses in the Roadway Construction Noise Model for outdoor construction noise (FHWA, 2006).

Table 4-29 Noise Levels Associated with Outdoor Construction

Construction Phase	Noise Level at 50 feet from Source (dBA)
Concrete Saw	90
Drum Mixer	80
Pneumatic Tools	85
Mounted Impact Hammer	90
Slurry Plant	78

Source: FHWA, 2006

With multiple pieces of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of active construction and drilling sites. The zone of relatively high construction noise levels typically extends to distances of 400 to 800 feet from the site of major construction operations. The Friendship Technology Preparatory High School and the Friendship Public Charter School Elementary School are 150 feet and 350 feet south of Buildings 68 and 69, respectively. Residential structures on Lebaum Street SE are located approximately 400 feet south of Building 68 and 69. Buildings 68 and 69 would be demolished under each of the action alternatives, and there would be minor to moderate short-term increases in noise levels at the schools and residences. In addition, minor, short-term noise increases from the construction of Building A3 under Alternative A or construction of Building B2 under Alternative B would impact the Friendship Technology Preparatory High School, the Friendship Public Charter School Elementary School, and the residences along Lebaum Street SE.

Because construction activities would be confined primarily to daytime hours and would be subject to DC noise regulations, noise at nearby receptors might be clearly audible, but the impact would be temporary and minor. As part of the building permitting process, the applicant would ensure in writing that the planned construction would comply fully with the limitations established by the noise regulations.

Relative to operational noise, the only substantial stationary sources of noise associated with the 2012 EIS development alternatives are the two 1,500-kW back-up generators. The generators would be enclosed with the intake and the exhaust open to the exterior. Generators would be operated a few hours per month for maintenance purposes and during periods when limited or no power was supplied by the electrical grid. Noise for the generators at 50 percent and 100 percent capacity was estimated. Noise during operation of the emergency generators would be remotely audible but would be substantially masked by existing ambient sources of noise particularly in the daytime hours. Noise during operation of the emergency generators would not be expected to exceed the DC noise limit of 55 dBA during the night or be highly annoying to nearby residences.

Mitigation Measures

The best practices provided in the 2008 and 2012 EISs to address noise impacts during construction related activities and facilities operations remain applicable to Master Plan Amendment 2 and include the following:

- All construction equipment powered by an internal combustion engine should be equipped with a properly maintained muffler.
- Air compressors would meet current EPA noise emission standards.
- Newer model construction equipment should be used as much as possible since it is generally quieter than older equipment.
- Nighttime construction activities should be minimized.
- Portable noise barriers within the equipment area and around stationary noise sources should be established.
- Tools and equipment should be selected to minimize noise
- Industrial silencers would be installed on stand-by generators

4.7 TRANSPORTATION

Assessment Methodology

The evaluation of transportation impacts is based on the capacity of the transportation network affected within the Transportation Study Area for Master Plan Amendment 2. An assessment of future transportation conditions for a development project typically uses the buildout year as the analysis study year. Traffic analyses have been conducted for design year 2035, when the DHS Headquarters consolidation would be completed, to evaluate the performance of the transportation network at full buildout to assist in identifying potential issues in the future. Transit and alternative modes of transportation improvements are also assessed. GSA has collaborated with DDOT on the TTR provided as Appendix D, which evaluates transportation impacts associated with DHS Headquarters consolidation at St. Elizabeths and proposes several possible transportation-related improvements to minimize impacts (Jacobs, 2019c). An overview of the analysis approach, summary of future socioeconomic characteristics and key land use developments in and near the Transportation Study Area, and technical process to develop future traffic demand volumes for the design year 2035 are provided in Chapter 6 of the TTR.

This section provides an analysis of potential transportation-related impacts associated with construction and operation of the No Action Alternative and the action alternatives for Master Plan Amendment 2 in the design year 2035. The analysis is provided in the TTR and is summarized below. For the purposes of the traffic analysis, the No Action Alternative involves the land use and transportation assumptions from the 2012 EIS for Master Plan Amendment 1 (GSA, 2012a). The action alternatives include a baseline scenario that assumes transportation improvements, the land use assumptions from Master Plan Amendment 2, and the same transportation improvements from Master Plan Amendment 1. The action alternatives also include scenarios for different West Campus Gate 1 improvement options under consideration, as well as a scenario in which bicycle lanes would be constructed along Martin Luther King Jr. Avenue SE. Table 2-1 in the TTR summarizes the major assumptions regarding land use and transportation improvements under Master Plan Amendment 2 in design year 2035.

The 2012 EIS identified four roadway improvement projects together with a DHS shuttle transit system needed to accommodate access to the consolidated DHS Headquarters at St. Elizabeths for Master Plan Amendment 1. As part of commitments in Master Plan Amendment 1, the following projects were planned to be implemented before the design year 2035:

1. Interchange modifications at I-295 interchange with Malcolm X Avenue SE (under construction with construction completion date of 2021)

2. St. Elizabeths Avenue Construction (completed)
3. Firth Sterling Avenue SE/St. Elizabeths Avenue SE Intersection Improvements (completed)
4. Martin Luther King Jr. Avenue SE Improvements (currently inactive)

These committed transportation projects were included in both the No Action Alternative and action alternatives for the purposes of the traffic analysis.

The impact thresholds for transportation are provided in Table 4-30.

Table 4-30 Impact Intensity Thresholds for Transportation

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable increases in intersection, freeway, and/or arterial operational performance from construction or projected for the design year	Noticeable increases in intersection, freeway, and/or arterial operational performance projected for the design year that would remain within operationally acceptable conditions.	Effect that is potentially major but with mitigation measures is reduced below major	Highly noticeable increases in intersection, freeway, and/or arterial operational performance projected for the design year that would not be operationally acceptable and would potentially result in impacts to regional traffic conditions.
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary, lasting through construction or lasting 1+ years after construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative vs. Action Alternatives

The following sections summarize the traffic operations analysis results for the No Action and action alternatives obtained from VISSIM microscopic simulations and compares the performances of the alternatives in terms of intersections, freeway, and arterials operations. The information was taken directly from Chapter 6 of the TTR.

Intersection Operations

Table 4-31 and Table 4-32 compare intersection operations within the Study Area between the No Action Alternative and action alternatives in the AM and PM peak hours, respectively, in the design year 2035. Following the criteria in *Guidance for Comprehensive Transportation Review* (DDOT, 2019d), intersections with significant impacts were identified and indicated in the last column in both tables. The changes were considered significant if the proposed project would cause overall intersection LOS to exceed the established LOS threshold (e.g., LOS E or F), or when the proposed project would cause overall intersection LOS E or F to experience an increase in vehicle delay of 5 percent or more. During the AM peak hours, five intersections were identified as showing significant impacts under the action alternatives, as compared to the No Action Alternative, as follows:

- The Gate 1 intersection on Martin Luther King Jr. Avenue SE (Intersection ID 19) would operate at LOS B in the No Action Alternative and degrade to LOS E in the action alternatives due to the increase in inbound traffic volumes towards Gate 1. The right-turning traffic from southbound Martin Luther King Jr. Avenue SE increased from 315 vehicles/hour to 565 vehicles/hour in the action alternatives, resulting in southbound approach failure at LOS F.
- The intersection of Martin Luther King Jr. Avenue SE and Lebaum Street SE (Intersection ID 21) is currently under a TWSC. Martin Luther King Jr. Avenue SE approaches are free flow, with no stops. The Lebaum Street SE approach is controlled by a stop sign. The control at this intersection is not expected to change in 2035. With higher demand volumes on Martin Luther King Jr. Avenue SE, the side street approach would experience longer delay times, increasing from 30 to 53 seconds per vehicle under the action alternatives.
- The intersection of Martin Luther King Jr. Avenue SE and Malcolm X Avenue SE (Intersection ID 27) would operate at LOS D in the No Action Alternative and degrade to LOS E in the action alternatives. This is mainly due to the increase in left-turn traffic volumes from the eastbound Malcolm X Avenue SE, from 135 vehicles/hour to 210 vehicles/hour during AM peak. This volume increase is mainly attributed to the redistributed trips to access to both West Campus and East Campus from the reconfigured I-295/Malcolm X Avenue SE interchange. In addition, no exclusive left-turn lane is available at the eastbound approach. The left-turn traffic shares the leftmost lane with through traffic, under a permissive left-turn phase. The lane configuration and signal phasing at this approach would not efficiently handle the high demand under the action alternatives, leading to a LOS F condition with excessive delay times and queues.

- The intersection at Martin Luther King Jr. Avenue SE and Suitland Parkway/Halley Place SE (Intersection ID 41) would operate at LOS E under the No Action Alternative and degrade to LOS F in the action alternatives. Overall, intersection delay would increase from 77 to 120 seconds per vehicle. Based on the analysis for the 2019 existing conditions (see Table 3-27), this intersection currently operates at LOS F. This intersection is one of the critical gateway points to the St. Elizabeths area, where the intersection feeds into heavy traffic to northbound I-295 during AM peak hours. Under the action alternatives, the intersection would be further loaded with the volumes entering to northbound I-295, adding 220 more vehicles on the right-turning traffic from southbound Martin Luther King Jr. Avenue SE and 230 more vehicles on the through traffic from Halley Place SE when compared to the No Action Alternative. The limited green time assigned for the westbound approach only processes 62 percent of the projected demand volumes during the AM peak hour, resulting in intersection operational failure.
- The intersection at Martin Luther King Jr. Avenue SE and the Suitland Parkway interchange (Intersection ID 102) would operate at LOS C in the No Action Alternative and LOS E in the action alternatives. Left-turning traffic from westbound Suitland Parkway to southbound Martin Luther King Jr. Avenue SE would increase from 135 vehicles/hour to 365 vehicles/hour, resulting in a failure operation on the westbound approach with excessive delay times.

Table 4-31 2035 No Action vs. Action—AM Peak Hour Intersection Operations (Delay and LOS)

Int ID	Intersection	Traffic Control	2035 No Action		2035 Action		Significant Impact
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
1	Martin Luther King Jr. Avenue SE and Good Hope Road SE	Signal	70	E	39	D	
2	Good Hope Road SE and 13 th Street SE	Signal	65	E	27	C	
3	Martin Luther King Jr. Avenue SE and W Street SE	Signal	15	B	8	A	
4	Martin Luther King Jr. Avenue SE and Pleasant Street SE/Maple View Place SE	TWSC	30	D	14	B	
5	W Street SE and 13 th Street SE	TWSC	9	A	14	B	
6	Martin Luther King Jr. Avenue SE and Morris Road SE	Signal	24	C	50	D	
7	Martin Luther King Jr. Avenue SE and Talbert Street SE	Signal	10	A	30	C	
8	Suitland Parkway and South Capitol Street SE	Signal	64	E	49	D	
10	Howard Road and Firth Sterling Avenue SE/I-295 NB On-Ramp	Signal	39	D	16	B	
11	Martin Luther King Jr. Avenue SE and Howard Road SE/Sheridan Road SE	Signal	32	C	46	D	
12	Howard Road SE and Sayles Place SE	OWSC	6	A	5	A	

Int ID	Intersection	Traffic Control	2035 No Action		2035 Action		Significant Impact
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
13	Suitland Parkway and Firth Sterling Avenue SE	Signal	47	D	35	C	
14	Suitland Parkway and Stanton Road SE	Signal	105	F	131	F	
16	Firth Sterling Avenue SE and Barry Road SE/Sumner Road SE	Signal	10	A	8	A	
17	Martin Luther King Jr. Avenue SE and Sumner Road SE/Stanton Road SE	Signal	37	D	49	D	
18	South Capitol Street SE and Defense Blvd/Firth Sterling Avenue SE	Signal	189	F	27	C	
19	Martin Luther King Jr. Avenue SE and West Campus Gate 1	Signal	11	B	74	E	Yes
20	Martin Luther King Jr. Avenue SE and Redwood Drive	Signal	15	B	16	B	
21	Martin Luther King Jr. Avenue SE and Lebaum Street SE	TWSC	30	D	53	F	Yes
22	Malcolm X Avenue SE and South Capitol Street NB	Signal	20	B	17	B	
23	Malcolm X Avenue SE and South Capitol Street SB	Signal	9	A	10	B	
24	Malcolm X Avenue SE and I-295 NB Ramps	OWSC	2	A	4	A	
25	Malcolm X Avenue SE and 2 nd Street SE	OWSC	66	F	14	B	
26	Malcolm X Avenue and Oakwood Street SE	OWSC	18	C	19	C	
27	Martin Luther King Jr. Avenue SE and Malcolm X Avenue SE	Signal	41	D	61	E	Yes
28	Martin Luther King Jr. Avenue SE and Raleigh Place SE	Signal	75	E	33	C	
29	Martin Luther King Jr. Avenue SE and Alabama Avenue SE	Signal	25	C	36	D	
30	Alabama Avenue SE and Randle Place SE	Signal	14	B	40	D	
31	Alabama Avenue SE and Wheeler Road SE	Signal	23	C	26	C	
41	Martin Luther King Jr. Avenue SE/South Capitol Street/Halley Place SE	Signal	77	E	120	F	Yes
43	Good Hope Road SE and Minnesota Avenue SE	Signal	103	F	98	F	
46	Alabama Avenue SE and 7 th Street SE	Signal	25	C	5	A	
47	Martin Luther King Jr. Avenue SE and West Campus Gate 3	Signal	10	A	11	B	
48	Firth Sterling Avenue SE and St. Elizabeths Avenue SE	Signal	70	E	21	C	
49	Firth Sterling Avenue SE and Eaton Road SE	Signal	44	D	8	A	
50	Howard Road SE and Anacostia Metro Garage Entrance	Signal	4	A	8	A	
51	West Campus Gate 4	Signal	109	F	15	B	
52	West Campus Gate 6	OWSC	31	D	28	D	
53	Martin Luther King Jr. Avenue SE/11 th Street Bridge and I-295 NB Off-Ramp	Signal	90	F	45	D	
54	11 th Street Bridge and I-295 SB On-Ramp	Signal	3	A	5	A	
100	Suitland Parkway and I-295 NB	Signal	20	B	29	C	
101	Suitland Parkway and I-295 SB	Signal	22	C	24	C	
102	Martin Luther King Jr. Avenue SE and Suitland Parkway Interchange	Signal	29	C	57	E	Yes
103	Malcolm X Avenue SE and I-295 Interchange	Signal	21	C	45	D	

Int ID	Intersection	Traffic Control	2035 No Action		2035 Action		Significant Impact
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
104	Shepherd Parkway/St. Elizabeths Avenue SE/I-295 Ramps	Signal	16	B	24	C	
105	Shepherd Parkway/St. Elizabeths Avenue SE/I-295 Ramps	Signal	16	B	44	D	
107	Martin Luther King Jr. Avenue SE and Pecan Street SE	Signal	16	B	13	B	

Note: The following intersections are not included in the 2035 scenarios because they will be eliminated/reconfigured by DDOT:

- a. Howard Road SE and I-295 SB Off-Ramp (Intersection ID 9)
- b. Stanton Road SE and Dunbar Road SE/Suitland Parkway EB On-Ramp (Intersection ID 44)
- c. Sheridan Road SE and Suitland Parkway WB Off-Ramp (Intersection ID 45)

During the PM peak hour, three intersections were identified as showing significant impacts under the action alternatives compared to the No Action Alternative. Details of these impacts are as follows:

- Operations at the intersection of Martin Luther King Jr. Avenue SE and Malcolm X Avenue SE (Intersection ID 27) would degrade from LOS D in the No Action Alternative to LOS E under the action alternatives. The right-turn traffic from southbound Martin Luther King Jr. Avenue SE would nearly double, from 55 vehicles per hour to 90 vehicles per hour. Left-turning traffic from northbound Martin Luther King Jr. Avenue SE would also experience high delays because of the limited green time allocations.
- The intersection of Martin Luther King Jr. Avenue SE and South Capitol Street/Halley Place SE (Intersection ID 41) would operate at LOS C under the No Action Alternative and degrade to LOS E under the action alternatives. However, based on the analysis for the 2019 existing conditions (see Table 3-27), this intersection currently operates at LOS F. Therefore, failure operation at this intersection is a pre-existing condition.
- The intersection of Suitland Parkway/I-295 SB ramp (Intersection ID 101) would operate at LOS D under the No Action Alternative and degrade to LOS E under the action alternatives. In particular, the traffic approaching from the southbound I-295 off-ramp to eastbound Suitland Parkway would cause critical delays. Based on microsimulation analysis, vehicles in the queue at this approach would need two cycles to be discharged, but they would not spill over to the freeway mainline.

Table 4-32 2035 No Action vs. Action—PM Peak Hour Intersection Operations (Delay and LOS)

Int ID	Intersection	Traffic Control	2035 No Action		2035 Action		Significant Impact
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
1	Martin Luther King Jr. Avenue SE and Good Hope Road SE	Signal	85	F	67	E	
2	Good Hope Road SE and 13 th Street SE	Signal	95	F	93	F	
3	Martin Luther King Jr. Avenue SE and W Street SE	Signal	117	F	28	C	
4	Martin Luther King Jr. Avenue SE and Pleasant Street SE/Maple View Place SE	TWSC	307	F	49	E	
5	W Street SE and 13 th Street SE	TWSC	8	A	10	A	
6	Martin Luther King Jr. Avenue SE and Morris Road SE	Signal	41	D	32	C	
7	Martin Luther King Jr. Avenue SE and Talbert Street SE	Signal	34	C	24	C	
8	Suitland Parkway and South Capitol Street SE	Signal	68	E	57	E	
10	Howard Road and Firth Sterling Avenue SE/I-295 NB On-Ramp	Signal	42	D	19	B	
11	Martin Luther King Jr. Avenue SE and Howard Road SE/Sheridan Road SE	Signal	54	D	55	D	
12	Howard Road SE and Sayles Place SE	OWSC	5	A	6	A	
13	Suitland Parkway and Firth Sterling Avenue SE	Signal	33	C	37	D	
14	Suitland Parkway and Stanton Road SE	Signal	89	F	103	F	
16	Firth Sterling Avenue SE and Barry Road SE/Sumner Road SE	Signal	19	B	12	B	
17	Martin Luther King Jr. Avenue SE and Sumner Road SE/Stanton Road SE	Signal	21	C	38	D	
18	South Capitol Street SE and Defense Blvd/Firth Sterling Avenue SE	Signal	59	E	44	D	
19	Martin Luther King Jr. Avenue SE and West Campus Gate 1	Signal	21	C	33	C	
20	Martin Luther King Jr. Avenue SE and Redwood Drive	Signal	22	C	15	B	
21	Martin Luther King Jr. Avenue SE and Lebaum Street SE	TWSC	16	C	25	C	
22	Malcolm X Avenue SE and South Capitol Street NB	Signal	11	B	10	A	
23	Malcolm X Avenue SE and South Capitol Street SB	Signal	49	D	22	C	
24	Malcolm X Avenue SE and I-295 NB Ramps	OWSC	1	A	7	A	
25	Malcolm X Avenue SE and 2 nd Street SE	OWSC	29	D	6	A	
26	Malcolm X Avenue and Oakwood Street SE	OWSC	5	A	9	A	
27	Martin Luther King Jr. Avenue SE and Malcolm X Avenue SE	Signal	43	D	56	E	Yes
28	Martin Luther King Jr. Avenue SE and Raleigh Place SE	Signal	13	B	11	B	
29	Martin Luther King Jr. Avenue SE and Alabama Avenue SE	Signal	6	A	16	B	
30	Alabama Avenue SE and Randle Place SE	Signal	21	C	21	C	
31	Alabama Avenue SE and Wheeler Road SE	Signal	13	B	19	B	

Int ID	Intersection	Traffic Control	2035 No Action		2035 Action		Significant Impact
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
41	Martin Luther King Jr. Avenue SE/South Capitol Street/Halley Place SE	Signal	21	C	58	E	Yes
43	Good Hope Road SE and Minnesota Avenue SE	Signal	44	D	29	C	
46	Alabama Avenue SE and 7 th Street SE	Signal	15	B	2	A	
47	Martin Luther King Jr. Avenue SE and West Campus Gate 3	Signal	9	A	15	B	
48	Firth Sterling Avenue SE and St. Elizabeths Avenue SE	Signal	49	D	18	B	
49	Firth Sterling Avenue SE and Eaton Road SE	Signal	25	C	0	A	
50	Howard Road SE and Anacostia Metro Garage Entrance	Signal	9	A	26	C	
51	West Campus Gate 4	Signal	29	C	28	C	
52	West Campus Gate 6	OWSC	22	C	7	A	
53	Martin Luther King Jr. Avenue SE/11 th Street Bridge and I-295 NB Off-Ramp	Signal	141	F	62	E	
54	11 th Street Bridge and I-295 SB On-Ramp	Signal	53	D	9	A	
100	Suitland Parkway and I-295 NB	Signal	37	D	51	D	
101	Suitland Parkway and I-295 SB	Signal	42	D	62	E	Yes
102	Martin Luther King Jr. Avenue SE and Suitland Parkway Interchange	Signal	35	C	35	C	
103	Malcolm X Avenue SE and I-295 Interchange	Signal	16	B	21	C	
104	Shepherd Parkway/St. Elizabeths Avenue SE/I-295 Ramps	Signal	12	B	11	B	
105	Shepherd Parkway/St. Elizabeths Avenue SE/I-295 Ramps	Signal	12	B	19	B	
107	Martin Luther King Jr. Avenue SE and Pecan Street SE	Signal	10	A	16	B	

Note: The following intersections are not included in the 2035 scenarios because they will be eliminated/reconfigured by DDOT:

- a. Howard Road SE and I-295 SB Off-Ramp (Intersection ID 9)
- b. Stanton Road SE and Dunbar Road SE/Suitland Parkway EB On-Ramp (Intersection ID 44)
- c. Sheridan Road SE and Suitland Parkway WB Off-Ramp (Intersection ID 45)

Freeway Operations

Freeway operations along the I-295 and DC-295 corridors within the Transportation Study Area do not show major differences between the No Action and action alternatives in both the AM and PM peak hours (Section 6.4.3 of the TTR in Appendix D). Both alternatives reveal similar traffic patterns for the recurrent congestion along I-295, which arise from demand fluctuations during the peak hours. Northbound I-295 mainline would experience congestion from the inbound traffic toward downtown DC during the AM peak hours. Similarly, the mirror movement, southbound I-295 would be congested for the outbound traffic during the PM peak hours. Under the action alternatives, I-295 freeway operational performance would be improved over the No Action Alternative due primarily to an associated improvement in operations at the adjacent ramp terminal intersections.

Arterial Operations

Along the four main arterial corridors within the Transportation Study Area, which include Martin Luther King Jr. Avenue SE, Firth Sterling Avenue SE, South Capitol Street SE, and Suitland Parkway, overall arterial operations under the action alternatives would improve or be similar to the No Action Alternative (Section 6.4.2 of the TTR in Appendix D). Out of eight arterial segments studied in the traffic analysis, seven showed comparable arterial operations (LOS D or better) in both the No Action and action alternatives. The only exception is northbound Firth Sterling Avenue SE, which would degrade from LOS D under the No Action Alternative to LOS E under the action alternatives. Southbound Firth Sterling Avenue SE would operate at a failing condition (LOS F) under the No Action Alternative but would be improved to LOS E under the action alternatives. Also, due to modifications at the Suitland Parkway and Martin Luther King Jr. Avenue SE interchange from the South Capitol Street Improvement Project, southbound South Capitol Street SE is improved from LOS D to B, and the reverse direction is improved from LOS C to A in the AM Peak Hour. In the PM peak hour, seven out of eight arterial segments show comparable or better operations under the action alternatives as compared to the No Action Alternative. The only exception is southbound Martin Luther King Jr. Avenue SE, degrading from LOS C to LOS D; but the arterial would still operate at acceptable conditions.

No-Action Alternative Analysis Summary

Under the No Action Alternative, the committed transportation projects would noticeably improve the operations in the overall transportation system within the Transportation Study Area in terms of greater demand served, higher speeds, and lower densities. Capacity improvement on I-295 at Malcolm X Avenue SE and St. Elizabeths Avenue SE allows for greater throughputs for inbound and outbound traffic through the critical gateway point of the St. Elizabeths area. Severe congestion would remain in existing conditions through a good portion of I-295, at the junction of South Capitol Street SE and Suitland Parkway, and along Martin Luther King Jr. Avenue SE during the AM peak hour in the northbound direction. The PM peak hour conditions show similar patterns but in reverse directions, and traffic congestion is generally less pronounced than in the AM peak hour. However, in both AM and PM peak hours, the No Action Alternative shows mostly comparable or improved traffic conditions in intersection, arterial, and freeway operations as compared to the existing conditions.

Implementation of the No Action Alternative would therefore be expected to result in long-term, minor, adverse impacts to traffic conditions in the vicinity of the West Campus.

Alternatives A and B Analysis Summary

The comparison of analysis results between the No Action Alternative and action alternatives shows similar operational conditions within the Transportation Study Area. Travel times on the major arterials would generally improve under the action alternatives except at Martin Luther King Jr. Avenue SE and Firth Sterling Avenue SE. Under Master Plan Amendment 2, the campus consolidation would redistribute DHS-related traffic to the Gate 1 intersection on Martin Luther King Jr. Avenue SE. By concentrating traffic at Gate 1, operations under the action alternatives would cause moderate congestion along Martin Luther King Jr. Avenue SE. As a result, operations at West Campus Gate 1 intersection at Martin Luther King Jr. Avenue SE would degrade during both AM and PM peak hours in term of delay time and vehicle queues. However, implementation of roadway improvements at the Gate 1 intersection, described in the mitigation measures section below, including provision for a dedicated right-turn lane on the southbound Martin Luther King Jr. Avenue SE to accommodate inbound traffic to Gate 1, would be expected to address the delay at the Gate 1 intersection and result in an overall long-term, minor, adverse impact to traffic conditions in the vicinity of the West Campus under the action alternatives.

Construction Related Traffic

The delivery of construction materials and equipment, the hauling of soils and fly-ash excavated from the plateau and Sweetgum Lane sites, and the arrival and departure of construction contractors would generate temporary increases in traffic on area roadways under each of the alternatives. Impacts to area roads would be primarily confined to local arterial roads including Howard Road SE, Martin Luther King Jr. Avenue SE, and Malcolm X Avenue SE, along with I-295. Approximately 9,000 to 12,000 dump truck loads of soil and fly-ash would be removed from the site over the course of construction. Because construction would be staged over a 5- to 10-year period, the impact to roadways and traffic would be spread out over time. With construction phasing, along with mitigation measures described below, impacts from construction traffic would be slight but detectable resulting in minor, short-term, adverse impacts to traffic and local roadways.

Mitigation Measures

Given the projected degradation of Gate 1 intersection operations, the traffic analysis considered potential roadway improvement options on Martin Luther King Jr. Avenue SE to minimize delays (Section 6.5 of the TTR in Appendix D). The roadway improvement options involved the following mitigation concepts:

- Modifying the southbound rightmost lane of Martin Luther King Jr. Avenue SE to a hard-right turn with dedicated lane, to a continuous right turn through channelization, or to an exclusive right-turn lane and a shared right turn and through in the center lane
- Expanding Martin Luther King Jr. Avenue SE to four lanes at the Gate 1 entrance or retain three lanes but convert the center lane to a reversible lane to accommodate peak direction traffic

Based on the results of the analysis, incorporating a continuous right-turn lane on Martin Luther King Jr. Avenue SE would most effectively address the delay at the Gate 1 intersection while maintaining operationally acceptable LOS (LOS D or better) in all other traffic movements.

Impacts from construction traffic would be mitigated by:

- Requiring construction traffic to make right-turns into and out of the West Campus to eliminate turning conflicts with through traffic
- Requiring construction traffic to utilize I-295, Howard Road SE, Martin Luther King Jr. Avenue SE, and Malcolm X Avenue SE while avoiding other local roadways

4.8 UTILITIES

4.8.1 Electrical Service

Assessment Methodology

Impacts to electrical service were analyzed based on the characteristics of current electrical service with the requirements for construction and operation of the alternatives.

The impact thresholds for electrical service are provided in Table 4-33.

Table 4-33 Impact Intensity Thresholds for Electrical Service

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts to electrical service from construction activities during replacement or extension of electrical lines	Slight, but detectable impacts to electrical service during replacement or extension of electrical lines Slight, but detectable increase in electrical demand, but service providers would be able to meet the demand	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable impacts to electrical service during replacement or extension of electrical lines that would result in severe service outages Significant increase in electrical demand and service providers would not be able to meet that demand

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary, lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Under the No Action Alternative, electrical service would continue to be provided by PEPCO. Ensuring sufficient electrical service to the plateau site would likely require the repair or rewiring of existing electrical conduit. Extension of electrical lines to new buildings and support facilities (e.g., sidewalks and parking areas) within the plateau site would be accomplished by trenching. Connection to electrical lines would be completed with the least amount of disruption possible to existing onsite facilities. Therefore, there would be direct, short-term, minor, adverse impacts to electrical services as disruptions to service would be slight, but detectable, during extension of the electrical lines.

Operation of the new buildings on the plateau under the No Action Alternative would result in a slight, but detectable, increase in electrical demand. GSA would coordinate with PEPCO to provide for the increased demand for electrical service, and it is anticipated that PEPCO would be able to meet the demand. Therefore, the No Action Alternative would result in direct, minor, long-term, adverse impacts to electrical services because there would be a slight increase in electrical demand, but the increase is not anticipated to overburden the capacity of PEPCO.

Indirect Impacts

Because the No Action Alternative is not anticipated to overburden the capacity of PEPCO to meet the demand of increased electrical service, there would be indirect, negligible, adverse impacts to regional electrical service.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Under Alternatives A and B, electrical service would continue to be provided by PEPCO. Ensuring sufficient electrical service to the plateau site would likely require the repair or rewiring of existing electrical conduit. Because the Sweetgum Lane site is undeveloped, new electrical lines would need

to be brought into the site. Extension of electrical lines to the Sweetgum Lane site and to new buildings and support facilities (e.g., sidewalks and parking areas) within the plateau site would be accomplished by trenching. Connection to electrical lines would be completed with the least amount of disruption possible to existing onsite facilities. Therefore, there would be direct, short-term, minor, adverse impacts to electrical services as disruptions to service during the extension of electrical lines would be slight, but detectable.

Operation of the new buildings on the plateau and Sweetgum Lane sites under Alternatives A and B would result in a slight increase in electrical demand. GSA would coordinate with PEPCO to provide for the increased demand for electrical service, and it is anticipated that PEPCO would be able to meet the demand. The action alternatives would result in direct, minor, long-term, adverse impacts to electrical services because there would be a slight increase in electrical demand, but the increase is not anticipated to overburden the capacity of PEPCO.

Indirect Impacts

Because Alternatives A and B are not anticipated to overburden the capacity of PEPCO to meet the demand of increased electrical service, there would be indirect, negligible, adverse impacts to regional electrical service.

Mitigation Measures

Facilities constructed under the No Action Alternative and Alternatives A and B would be designed to reduce energy consumption as mitigation. Energy efficiency would be promoted through GSA's goal to achieve the LEED Gold rating on new construction. Energy conservation measures, including, but not limited to, building orientation, daylighting (i.e., using natural sunlight to potentially reduce energy needs for interior lighting), and installing energy-efficient lighting and heating and cooling systems, could be incorporated into building designs to reduce demand on electrical services.

4.8.2 Natural Gas Service

Assessment Methodology

Impacts to natural gas service were analyzed based on the characteristics of current natural gas service with the requirements for construction and operation of the alternatives.

The impact thresholds for natural gas service are provided in Table 4-34.

Table 4-34 Impact Intensity Thresholds for Natural Gas Service

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts to natural gas service from construction activities related to replacement or extension of natural gas lines	Slight, but detectable impacts to natural gas service during replacement or extension of natural gas lines Slight, but detectable increase in natural gas demand, but service providers would be able to meet the demand	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable impacts to natural gas service during replacement or extension of natural gas lines that would result in severe service outages Significant increase in natural demand and service providers would not be able to meet that demand
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary, lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Under the No Action Alternative, natural gas service would continue to be provided by Washington Gas to the West Campus CUP. If natural gas service is required within specific buildings, gas lines would be installed using trenching. Connection to natural gas lines would be completed with the least amount of disruption possible to existing onsite facilities. The disruption of natural gas service would be non-discernable and would last only through construction. Because the majority of natural gas usage is to the CUP, under the No Action Alternative, there would be direct, short-term, negligible, adverse impacts from non-discernable disruption to onsite natural gas service during construction of new buildings on the plateau.

The CUP has been designed to accommodate all development on the West Campus, and, therefore, the demand for natural gas to operate the CUP is already planned for under the Master Plan. Any new demand to provide natural gas to individual new buildings on the plateau under the No Action Alternative would be slight, but detectable, and is not anticipated to overburden Washington Gas’s ability to provide service. Therefore, there would be a direct, long-term, minor, adverse impact to natural gas service.

Indirect Impacts

Because the No Action Alternative is not anticipated to overburden the capacity of Washington Gas, there would be indirect, negligible, long-term, adverse impacts to regional natural gas service.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Under Alternatives A and B, natural gas service would continue to be provided by Washington Gas to the West Campus CUP. If natural gas service is required within specific buildings, gas lines would be installed using trenching. Connection to natural gas lines would be completed with the least amount of disruption possible to existing onsite facilities. The disruption of natural gas service would be non-discernable and would last only through construction. Because the majority of natural gas usage is to the CUP, under the action alternatives, there would be direct, short-term, negligible, adverse impacts from non-discernable disruption to onsite natural gas service during construction of new buildings on the plateau.

The CUP has been designed to accommodate all development on the West Campus, and, therefore, the demand for natural gas to operate the CUP is already planned for under the Master Plan. Any new demand to provide natural gas to individual new buildings on the plateau and Sweetgum Lane sites under Alternatives A and B would be slight, but detectable, and is not anticipated to overburden Washington Gas's ability to provide service. Therefore, there would be a direct, long-term, minor, adverse impact to natural gas service.

Indirect Impacts

Because Alternatives A and B are not anticipated to overburden the capacity of Washington Gas, there would be indirect, negligible, long-term, adverse impacts to regional natural gas service.

Mitigation Measures

Facilities constructed under the No Action Alternative and Alternatives A and B would be designed to be energy and water efficient thus reducing demand on the CUP which utilizes natural gas. Energy efficiency would be promoted as mitigation through GSA's goal to achieve the LEED Gold rating on new construction.

4.8.3 Water Service

Assessment Methodology

Impacts to water service were analyzed based on the characteristics of current water service with the requirements for construction and operation of the alternatives. Water demand projections were estimated based on unit flow demands (gallons per day [gpd]) for the proposed square footage of office space proposed. DC Water does not have a methodology for projecting water consumption. Therefore, the Washington Suburban Sanitary Commission’s (WSSC) *Pipeline Design Manual* was utilized for the analysis (WSSC, 2017).

The impact thresholds for water service are provided in Table 4-35.

Table 4-35 Impact Intensity Thresholds for Water Service

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts to water service from construction activities related to replacement or extension of water lines	Slight, but detectable impacts to water service during replacement or extension of water lines Slight, but detectable increase in water demand, but service providers would be able to meet the demand	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable impacts to water service during replacement or extension of water lines that would result in severe service outages Significant increase in water demand and service providers would not be able to meet that demand
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Under the No Action Alternative, DC Water would continue to provide water service to the West Campus. Hot and chilled water would be generated by the CUP. The CUP would accommodate the equipment needed for all the remaining phases of the campus redevelopment including redevelopment of the plateau site.

Redevelopment of the plateau site under the No Action Alternative would require construction of new water lines to support the new buildings. Connections of new water lines would be done with as little disruption to existing service as possible. Therefore, there would be a direct, short-term, minor, adverse impacts to water service as disruptions would be slight, but detectable, during the extension of the water lines.

Water demand projections for the No Action Alternative were estimated based on unit flow demands for the proposed square footage of office space proposed. Estimates of water demand for development on the plateau site under the No Action Alternative are provided in Table 4-36. The maximum daily demand for the new buildings would be approximately 0.2 percent of the potable water distributed by DC Water; operation of the new buildings is not anticipated to overburden DC Water's ability to meet the slight, but detectable, increase in demand (DC Water, 2019b). Therefore, operation of facilities on the plateau under the No Action Alternative would have direct, long-term, minor, adverse impacts to water supplies from a slight, but detectable, increase in water demand.

Indirect Impacts

Because operation of the new buildings under the No Action Alternative is not anticipated to overburden DC Water's water systems, there would be indirect, negligible impacts to regional water service.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Under Alternatives A and B, DC Water would continue to provide water service to the West Campus. Hot and chilled water would be generated by the CUP2 project to be constructed on the West Campus as a follow-up project to work completed during the campus Phase 1 redevelopment. The CUP2 would accommodate the equipment needed for all the remaining phases of the campus redevelopment including redevelopment of the plateau and Sweetgum Lane sites under Alternatives A and B.

Redevelopment of the plateau site under Alternatives A and B would require construction of new water lines to support the new buildings. Connections of new water lines would be done with as little disruption to existing service as possible. Therefore, there would be direct, short-term, minor, adverse impacts to water service under the action alternatives as disruptions would be slight, but detectable, during the extension of the water lines.

Water demand projections for Alternatives A and B were estimated based on unit flow demands for the proposed square footage of office space proposed. Estimates of water demand for development on the plateau and Sweetgum Lane sites are provided in Table 4-36. The maximum daily demand for the new buildings would be approximately 0.3 percent of the potable water distributed by DC Water; operation of the new buildings is not anticipated to overburden DC Water’s ability to meet the slight, but detectable, increase in demand (DC Water, 2019b). Therefore, operation of facilities on the plateau and Sweetgum Lane sites under the action alternatives would have direct, long-term, minor, adverse impacts to water supplies from a slight, but detectable, increase in water demand.

Table 4-36 Estimated Water Demand

	Office Space (gsf)	Average Daily Water Demand Unit Flow (gpd/gsf) ^a	Average Daily Demand (gpd)	Maximum Day Demand (gpd) ^b
No Action Alternative	1,141,133	0.093	106,125	212,250
Alternatives A and B	1,375,000	0.093	127,875	255,750

Notes: a. Based Table 19c in Appendix C of the 2017 Pipeline Design Manual (WSSC, 2017)

b. The Maximum Day Demand factor for Water Mains is twice the Average Day Demand

Indirect Impacts

Because operation of the new buildings under Alternatives A and B is not anticipated to overburden DC Water’s water systems, there would be indirect, negligible impacts to regional water service.

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, water consumption would be mitigated through GSA’s goal to achieve a LEED Gold rating on new construction. Water consumption could be reduced by installing native and drought-tolerant plants in landscaping that require less watering, reusing gray water for irrigation, installing water-saving faucets and toilets in bathroom and kitchen facilities, and changing custodial operations to minimize demand for potable water.

4.8.4 Sanitary Sewer System

Assessment Methodology

Impacts to the sanitary sewer system were analyzed based on the characteristics of current sewer systems with the requirements for construction and operation of the alternatives.

The impact thresholds for sanitary sewer collection systems are provided in Table 4-37.

Table 4-37 Impact Intensity Thresholds for Sanitary Sewer

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts to sanitary sewer service from construction activities related to replacement or extension of sewer lines	Slight, but detectable impacts to sanitary sewer service during replacement or extension of sewer lines Slight, but detectable increase in sewer volumes, but service providers would be able to handle the increase	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable impacts to sanitary sewer service during replacement or extension of sewer lines that would result in severe service outages Significant increase in sewer flows and service providers would not be able to handle the increase
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary, lasting only through construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Redevelopment within the plateau site under the No Action Alternative would require the construction of new sewer infrastructure. Sewer pipes originally installed were made of clay with flexible compression joints and are now in poor condition. Damage to these pipes during construction and tree root intrusion have resulted in considerable infiltration of stormwater. New sewer lines would be connected to DC Water sewer lines offsite or to new sewer lines installed during Phase 1 development. During construction, there would be slight, but detectable, impacts to sewer service; therefore, construction to replace sewer infrastructure at the plateau site would result in direct, short-term, minor, adverse impacts to the sanitary sewer collection system while new sewer infrastructure is installed; however, replacing damaged piping and making other system upgrades would minimize stormwater intrusion and provide a more effective system, resulting in beneficial impacts.

Operation of facilities under the No Action Alternative would result in additional demand on the District’s sewer service. The Blue Plains Advanced Wastewater Treatment Plant has the capacity to treat an average of 384 million gallons per day (mgd) (DC Water, 2019a). Based on the water usage estimated in Section 4.8.3, the No Action Alternative would add 0.0006 percent to the wastewater

treated by DC Water and is not anticipated to overburden the sewage treatment system's ability to handle the small increase in volume. Therefore, the No Action Alternative would result in a direct, long-term, minor, adverse impact to the sanitary sewer system because there would be a slight, but detectable, increase in sewage treated by DC Water.

Indirect Impacts

Because the No Action Alternative is not anticipated to overburden the sanitary sewer system, there would be indirect, long-term, negligible impacts to regional sewer service.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Redevelopment within the plateau and Sweetgum Lane sites under Alternatives A and B would require the construction of new sewer infrastructure. Sewer pipes originally installed in the plateau site were made of clay with flexible compression joints and are now in poor condition. Damage to these pipes during construction and tree root intrusion have resulted in considerable infiltration of stormwater. Because the Sweetgum Lane site is undeveloped, new sewer lines would need to be brought to the site. New sewer lines would be connected to DC Water sewer lines offsite or to new sewer lines installed during Phase 1 development. During construction, there would be slight, but detectable, impacts to sewer service. Therefore, construction to replace sewer infrastructure at the plateau site would result in direct, short-term, minor, adverse impacts to the sanitary sewer collection system while new sewer infrastructure is installed; however, replacing damaged piping and other system upgrades would minimize stormwater intrusion and provide a more effective system, resulting in beneficial impacts.

Operation of facilities under Alternatives A and B would result in additional demand on the District's sewer service. The Blue Plains Advanced Wastewater Treatment Plant has the capacity to treat an average of 384 mgd (DC Water, 2019a). Based on the water usage estimated in Section 4.8.3, Alternatives A and B would add 0.0007 percent to the wastewater treated by DC Water and is not anticipated to overburden the sewage treatment system's ability to handle the small increase in sewer volume. Therefore, the action alternatives would have direct, long-term, minor, adverse impacts to the sanitary sewer system because there would be a slight, but detectable increase in sewage treated by DC Water.

Indirect Impacts

Because Alternatives A and B are not anticipated to overburden the sanitary sewer system, there would be indirect, long-term, negligible impacts to regional sewer service.

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, the reduction of water consumption would result in an associated reduction in sanitary sewer volumes. Measures to reduce water consumption are described above (Section 4.8.3). Upgrading the sanitary sewer collection system on the plateau and Sweetgum Lane sites would also provide mitigation and reduce demand by fixing damaged pipes that are allowing stormwater to infiltrate the sewer system.

4.8.5 Solid Waste Management

Assessment Methodology

Impacts to solid waste management were analyzed based on the characteristics of current solid waste management with the requirements for demolition, construction, and operation of the alternatives.

The impact thresholds for solid waste management are provided in Table 4-38.

Table 4-38 Impact Intensity Thresholds for Solid Waste Management

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable increase in solid waste generated by construction related activities or by operation of facilities	Slight, but detectable increase in solid waste generated by construction related activities or by operation of facilities The increase in solid waste would not affect waste haulers from removing the waste and it would not affect the capacity of landfills	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable increases in solid waste generated by construction related activities or by operation of facilities; waste haulers and landfills could not accommodate the increase
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Regional	Regional
Duration	Temporary, lasting through construction or lasting 1+ years after construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Under the No Action Alternative, construction and operation of new facilities at the plateau site would increase the volume of solid waste requiring disposal from the West Campus. Waste would be generated from renovation of existing buildings and construction of new buildings. The solid waste generated by construction activities or facility operations would be slight, but detectable. Any LBP, ACM, or other contaminated wastes from building renovation would be disposed of at licensed facilities. Disposal of waste generated from renovation and construction would not overburden the capacity of the waste haulers or the capacity of landfills. GSA's minimum requirement is to divert 50 percent of construction and demolition waste from landfills/incinerators, with a higher reach goal of 70 percent diversion. Therefore, there would be a direct, short-term, minor, adverse impact to solid waste management under the No Action Alternative.

Over the long-term, solid waste generated on the West Campus, including the facilities within the plateau site, would be disposed of by private hauling services and is not anticipated to affect waste haulers or the capacity of landfills. Based on the amount of waste currently generated at the West Campus per building square foot, it is estimated that the No Action Alternative would generate an additional 218 tons of waste per year. Approximately 165 tons of waste would be recycled and approximately 53 tons of waste would be disposed of at the Covanta Waste to Energy Plant. The No Action Alternative would contribute approximately 0.06 percent of recyclable materials to the waste stream at Recycle One and approximately 0.02 percent of non-recyclable materials to the waste stream at the Covanta Waste to Energy Plant and, therefore, is not anticipated to affect the Plant's ability to process waste. Therefore, the No Action Alternative would have a direct, long-term, minor, adverse impact to solid waste management.

Indirect Impacts

Measures to minimize the amount of solid waste produced on the West Campus would be implemented. Solid waste that is produced at buildings on the plateau site under the No Action Alternative would be hauled to landfills or other disposal facilities such as a waste-to-energy incinerator. Increased waste at landfills can lead to impacts to water quality and waste-to-energy incinerators may affect air quality. It is assumed that waste disposal facilities are operated in accordance with state and Federal laws to minimize environmental effects of their operations. The No Action Alternative is not anticipated to affect the capacity of landfills or waste haulers from removing waste. Because the No Action Alternative would contribute a slight, but detectable, amount to the waste stream at the Covanta Waste to Energy Plant, there would be indirect, long-term, minor, adverse impacts from solid waste management.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Under Alternatives A and B, demolition and renovation of existing buildings and construction of new buildings, parking, sidewalks, utilities, and shuttle hubs would result in construction waste. The solid waste generated by construction activities or facility operations would be slight, but detectable. Any LBP, ACM, or other contaminated wastes from building demolition and building renovation would be disposed of at licensed facilities. Disposal of waste generated from demolition, renovation, and construction would not overburden the capacity of the waste haulers or the capacity of landfills. GSA's minimum requirement is to divert 50 percent of construction and demolition waste from landfills/incinerators, with a higher reach goal of 70 percent diversion. Therefore, there would be a direct, short-term, minor, adverse impact to solid waste management under Alternatives A and B.

Over the long-term, solid waste generated on the West Campus, including the facilities within the plateau site, would be disposed of by private hauling services and is not anticipated to affect waste haulers or the capacity of landfills. Based on the amount of waste currently generated at the West Campus per building square foot, it is estimated that Alternatives A and B would generate approximately 8 percent more waste (235 tons) per year. Approximately 178 tons of waste would be recycled and approximately 57 tons of waste would be disposed of at the Covanta Waste to Energy Plant. Alternatives A and B would contribute approximately 0.06 percent of recyclable materials to the waste stream at Recycle One and approximately 0.02 percent of non-recyclable materials to the waste stream at the Covanta Waste to Energy Plant and, therefore, is not anticipated to affect the Plant's ability to process waste. Therefore, Alternatives A and B would have direct, long-term, minor, adverse impacts to solid waste management.

Indirect Impacts

Measures to minimize the amount of solid waste produced on the West Campus would be implemented. Solid waste that is produced at buildings on the plateau site under Alternatives A and B would be hauled to landfills or other disposal facilities such as a waste-to-energy incinerator. Increased waste at landfills can lead to impacts to water quality and waste-to-energy incinerators may affect air quality. It is assumed that waste disposal facilities are operated in accordance with state and Federal laws to minimize environmental effects of their operations. Alternatives A and B are not anticipated to affect the capacity of landfills or waste haulers from removing waste. Because the action alternatives would contribute a slight, but detectable, amount to the waste stream at the Covanta Waste to Energy Plant, there would be an indirect, long-term, minor, adverse impacts from solid waste management.

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, recycling programs would serve as mitigation and be implemented during construction and operation of facilities at the plateau and Sweetgum Lane sites to reduce the volume of solid waste leaving the West Campus for disposal.

4.9 ENVIRONMENTAL CONTAMINATION

Assessment Methodology

Impacts to environmental contamination were analyzed based on the characteristics of contamination within the West Campus with the requirements for demolition, construction, and operation of the alternatives.

The impact thresholds for environmental contamination are provided in Table 4-39.

Table 4-39 Impact Intensity Thresholds for Environmental Contamination

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable increase in environmental contamination from construction related activities or operation of facilities	Slight, but detectable increase in contamination from construction related activities or operation of facilities; The increases in contamination would not result in the degradation of environmental conditions or human health	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable increase in contamination from that would result in the degradation of environmental conditions or human health Releases of contaminants in violation of the RCRA, CWA, or CAA
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites)	Localized (i.e., confined to the project sites) with high probability to extend beyond the West Campus and effect the area within the general vicinity of the West Campus	Localized (i.e., confined to the project sites) with high probability to extend beyond the West Campus and effect the area within the general vicinity of the West Campus
Duration	Temporary, lasting through construction or lasting 1+ years after construction	Temporary, lasting through construction or lasting 1+ years after construction	Lasting 1+ years after construction	Lasting 1+ years after construction

No Action Alternative

Direct Impacts

Based on their ages and past uses as medical facilities, Buildings 15, 60, 64, 66, 67, 68, and 69 may contain hazardous materials including ACM, LBP, PCBs, mercury-containing materials, radioactive materials, ozone-depleting substances, pesticides, herbicides, petroleum products, biological hazards, mold, or other unidentified materials. ACM within these buildings would be identified, removed prior to building renovations by a certified asbestos abatement contractor in accordance with NESHAP, and disposed of at an EPA-approved landfill. LBP, PCBs, and mercury-containing materials would be removed prior to renovation and disposed of in accordance with RCRA and TSCA. Any other hazardous materials or waste encountered would be removed prior to renovation and disposed of in accordance with applicable regulations.

Fly ash and other soil contaminants such as petroleum would be disturbed by construction activities on the plateau site. Contaminated soil would be characterized and removed, as required, and disposed of at an EPA-approved landfill in accordance with RCRA. Approximately 4 acres of fly ash would be disturbed by the No Action Alternative. The depth of fly ash has not been delineated on the plateau site; therefore, the total volume of fly ash that would be removed under the No Action Alternative is not known.² As recommended by the 2008 Risk Assessment, engineering controls including dust suppression and worker personal protective equipment (i.e., gloves and eye protection) would be used, and a work plan would be developed and implemented to protect the health and safety of site workers during the removal of hazardous materials and contaminated soils (G&O, 2008).

The No Action Alternative would result in a direct, short-term, minor, adverse impact from a slight, but detectable, increase of environmental contaminants sent to EPA-approved landfills. It is anticipated that these landfills would accommodate this waste and that there would be no degradation of environmental conditions or human health. There would be beneficial impacts from the removal of hazardous materials in renovated buildings and the removal of fly ash and contaminated soils.

² While the depth of fly ash on the plateau has not been delineated, reports of fly ash on the site range from less than a foot up to 60 feet deep (Haley & Aldrich, 2016).

Indirect Impacts

The removal of the hazardous materials, fly ash, and contaminated soils would improve environmental conditions and reduce the potential for human contact with contaminants. Therefore, the No Action Alternative would result in beneficial impacts.

Alternative A and Alternative B (Preferred Alternative)

Direct Impacts

Based on their ages and past uses as medical facilities, Buildings 15, 60, 64, 66, 67, 68, and 69 may contain hazardous materials including ACM, LBP, PCBs, mercury-containing materials, radioactive materials, ozone-depleting substances, pesticides, herbicides, petroleum products, biological hazards, mold, or other unidentified materials. ACM within these buildings would be identified, removed prior to building renovations by a certified asbestos abatement contractor in accordance with NESHAP, and disposed of at an EPA-approved landfill. LBP, PCBs, and mercury-containing materials would be removed prior to renovation and disposed of in accordance with RCRA and TSCA. Any other hazardous materials or waste encountered would be removed prior to renovation and disposed of in accordance with applicable regulations.

Fly ash and other soil contaminants such as petroleum would be disturbed by construction activities on the plateau site. Contaminated soil would be characterized and removed, as required, and disposed of at an EPA-approved landfill in accordance with RCRA. Under Alternatives A and B, approximately 4 acres of fly ash would be disturbed by construction of the proposed buildings on the plateau site. The depth of fly ash has not been delineated; therefore, the total volume of fly ash that would be removed under the action alternatives is not known. Fly ash and contaminated soil would be characterized and removed, as required, and disposed of at an authorized landfill. As recommended by the 2008 Risk Assessment, engineering controls including dust suppression and worker personal protective equipment (i.e., gloves and eye protection) would be used, and a work plan would be developed and implemented to protect the health and safety of site workers during the removal of hazardous materials and contaminated soils (G&O, 2008).

Alternatives A and B would result in a direct, short-term, minor, adverse impact from a slight, but detectable, increase of environmental contaminants sent to EPA-approved landfills. It is anticipated that these landfills would accommodate this waste and that there would be no degradation of environmental conditions or human health. There would be beneficial impacts from the removal of hazardous materials in renovated buildings and the removal of fly ash and contaminated soils.

Indirect Impacts

The removal of the hazardous materials, fly ash, and contaminated soils would improve environmental conditions and reduce the potential for human contact with contaminants. Therefore, Alternatives A and B would result in beneficial impacts.

Mitigation Measures

Under the No Action Alternative and Alternatives A and B, prior to disrupting contaminated soils, areas with recognized environmental conditions should be characterized for removal and disposal by a licensed contractor following best practices. Prior to the commencement of demolition or renovation activities, it may be necessary to abate ACMs, LBP, PCBs, and mercury. Development would not occur until all appropriate conditions have been met and regulator certifications or notices of closure have been obtained.

As recommended by the 2008 Risk Assessment, engineering controls including dust suppression and worker personal protective equipment (i.e., gloves and eye protection) would be used as a best practice, and a work plan would be developed and implemented to protect the health and safety of site workers during the removal of hazardous materials and contaminated soils (G&O, 2008).

4.10 CUMULATIVE IMPACTS

CEQ regulations require federal agencies to assess the cumulative effects of Federal projects during the decision-making process. Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). As stated in the CEQ handbook, “Considering Cumulative Effects” (CEQ, 1997), cumulative impacts need to be analyzed in terms of the specific resource, ecosystem, and human community being affected and should focus on effects that are truly meaningful.

This section provides a description of the cumulative impacts that the proposed action, combined with other past development and future projects in the area, may have on the human environment. Cumulative impacts are considered for all alternatives, including the No Action Alternative, and are included for each resource in Chapter 4.

4.10.1 Assessment Methodology

The methodology for determining cumulative effects is derived from assessing the impact of past, present, and reasonably foreseeable future actions on the West Campus, the East Campus, and in the vicinity of St. Elizabeths. The impacts of the Master Plan Amendment 2 alternatives are then added to define the cumulative impact of all the actions together. It is important to note that, due to the disparate scale and location of the proposed actions, effects from certain proposed actions could be moderate; when those effects are considered in the overall context, however, they could constitute a relatively small incremental portion of the project area and contribute to a collective minor effect. Because the impact for past and future projects cannot be quantified, the cumulative impacts are described using qualitative terms.

4.10.2 Past, Present, and Reasonably Foreseeable Future Actions

Development of the St. Elizabeths East and West Campuses began in 1852 and culminated in 1963 (GSA, 2008; St. Elizabeths East, 2019). The neighborhoods surrounding St. Elizabeths, including Barry Farm and Congress Heights, were developed from the late 1800s through the early 1900s (GSA, 2008; DC Community Heritage Project, n.d.). Bolling Air Force Base (now JBAB) was established in 1917 (U.S. Navy, 2019). A new hospital was constructed on the East Campus in 2010 (St. Elizabeths East, 2019).

West Campus Development

Since adoption of the Master Plan and 2008 EIS, GSA has advanced a number of projects on the West Campus in alignment with the Master Plan and Master Plan Amendment 1 (Table 4-40).

Table 4-40 West Campus Projects

Project	Project Type	Construction Start Date	Opening Date
Douglas A. Munro Building	Construction	2009	2013
Building 31 (Atkins Hall)	Rehabilitation and adaptive reuse	2010	2013
Building 33 (Dining Hall)	Rehabilitation and adaptive reuse	2010	2013
Building 34 (Detached Kitchen)	Rehabilitation and adaptive reuse	2010	2013
Building 49 (Construction Shops)	Rehabilitation and adaptive reuse	2010	2013
Building 40	Rehabilitation and adaptive reuse	2009	2009
Center Building	Renovation	2014	2019
Building 37 (Hitchcock Hall)	Rehabilitation and adaptive reuse	2018	2019
West Addition	Construction including removal of the interim egress stair adjacent to the Center Building	2017	Ongoing

Project	Project Type	Construction Start Date	Opening Date
CUP	Construction	2009	2012
CUP2	Construction	2018	Ongoing

In addition to these past and present projects, additional actions on the West Campus will continue in accordance with the approved Master Plan including continued rehabilitation of historic buildings, construction of underground parking, and improvements to roadways, sidewalks, utilities, and landscaping.

East Campus Development

In 2012, DCOP and DMPED developed the *St. Elizabeths East Master Plan and Design Guidelines* to provide guidance on development for the East Campus. Since the completion of the *St. Elizabeths East Campus Master Plan*, the East Campus has begun several development projects. The first phase of development called for residential, mixed-use, office, retail, and entertainment. Phase 1 began in 2016 and saw the installation of necessary infrastructure and utilities. In 2016, construction began on an Entertainment and Sports Arena. The 118,000-square-foot, 4,200-seat facility was completed in 2018 (Events DC, 2019). Additionally, a water tower was constructed in 2018 to service the area. Multi-family affordable housing and townhome units are anticipated to be completed in 2020, and a commercial office space is slated for 2021. Future use of the remaining parcels is currently in ongoing development (DMPED, 2019).

Planned development on the East Campus includes (DMPED, 2017):

- 1.68 million gsf office space
- 168,000 gsf retail space
- 1,621 residential units (multi-family and townhouses)
- 352,000 gsf hospitality
- 310,000 gsf of civic/art/institutional
- 150-bed hospital with 230,000 gsf ambulatory services in the North Parcel (previously proposed for DHS use)
- Men’s shelter (380-bed low-barrier shelter) in the North Parcel (previously proposed for DHS use)

Additional Projects in the Vicinity of St. Elizabeths

Planned development in the vicinity of St. Elizabeths includes government projects, retail development, and mixed-use development (Table 4-41).

Table 4-41 Reasonably Foreseeable Projects near the West Campus

Development	Location
St Elizabeths East Campus; Mixed-Use Development	Between Martin Luther King Jr. Avenue SE and Alabama Avenue SE
Barry Farm Redevelopment; Mixed-Use Development	Between Firth Sterling Avenue SE and Martin Luther King Jr. Avenue SE
Poplar Point	Between Anacostia River and Howard Road SE
Anacostia Metro Station Area Redevelopment	1101 Howard Road SE (source Anacostia Metro plan)
Anacostia Redevelopment - Great Streets Initiative	Martin Luther King Jr. Avenue SE/South Capitol Street SE
Bethlehem Baptist Church Planned Unit Development (PUD)	2458 Martin Luther King Jr. Avenue SE
Anacostia Square	Good Hope Road SE and Martin Luther King Jr. Avenue SE
Curtis Properties	Between U Street and Chicago Street along Martin Luther King Jr. Avenue SE
Anacostia Park/Anacostia Riverwalk Trail/Twining Square Park	East and west banks of the Anacostia River
BRAC Consolidation at JBAB	JBAB
Fort Stanton Recreation Center	1812 Erie Street SE
Carver Theater (Renovations)	Anacostia neighborhood of Washington, DC
Matthew Memorial Terrace	East side of Martin Luther King Jr. Avenue SE, adjacent to Matthews Memorial Church
Sheridan Terrace	Bounded east of Suitland Parkway and south of Martin Luther King Jr. Avenue SE

Source: MWCOG, 2019

4.10.3 Natural Resources

Geology, Topography, and Soils

Past development and construction activities on, and in the vicinity of, the West Campus may have required grading, ground disturbance, and subsurface activities. These activities would have resulted in changes to geology, topography, and soils as land was converted from agricultural uses to commercial, residential, and transportation uses. Additionally, planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, would require ground disturbance and subsurface activities. These planned activities could also lead to soil erosion and sedimentation, although future development would likely include erosion and sediment control plans in compliance with District laws and regulations. The impacts of the No Action Alternative, Alternative A, and Alternative B, when added to the cumulative impacts of all past and future impacts to geology, topography, and soils, would be slight, but detectable resulting in minor, long-term, adverse cumulative impacts.

Groundwater

Past development and construction activities have increased impervious surface within the Anacostia watershed as land was converted from agricultural uses to commercial, residential, and transportation uses. The increase in impervious surface has impacted groundwater recharge. Additionally, planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, would result in increases in impervious surfaces. The 3.8 acres of new impervious surfaces that would be created under the No Action Alternative, the 3.7 and 3.3 acres of new impervious surface that would be created under Alternatives A and B, respectively, and the corresponding decrease in groundwater recharge, would not have a discernable effect on cumulative impacts of other past and future projects to groundwater, resulting in negligible, long-term, adverse cumulative impacts.

Surface Water

Past construction and development activities in the vicinity of the West Campus have resulted in direct and indirect adverse impacts to the surface water quality, including wetlands, of the Lower Anacostia River Watershed. Urban and suburban development has resulted in poor surface water quality in the Anacostia River from sediment deposition in runoff from construction zones and impervious surface. Wetland losses have resulted from draining, dredging, filling, leveling, and flooding for urban and residential development. The discharge of stormwater from developed areas into wetlands contributes to poor surface and wetlands water quality (EPA, 2019).

In recent years, several Federal and District policies and best practices have been employed such as Section 438 of the EISA, DOEE's 2013 Stormwater Rule, and the 2019 revisions to the 2013 SWMG. Improvements have been made within the watershed that are intended to improve water quality. In June 2019, GSA's Central Office developed a memorandum that was distributed to all GSA regions that provides guidance to ensure compliance with Section 438 of the EISA (GSA, 2019b).

Over the long-term, continued development, as described in Section 4.10.2, has the potential to exacerbate impaired water quality that is present in the Lower Anacostia River Watershed. Increases in impervious surfaces are likely to increase stormwater runoff, introduce sediment and other pollutants into surface waters, degrade stream channels, and potentially affect important wetland functions. Implementation of the guidelines of DOEE's 2013 Stormwater Rule, the 2019 revisions to the 2013 SWMG, and other stormwater BMPs should help to minimize impacts as would wetland creation, restoration, enhancement, and other environmental restoration and cleanup efforts.

As described in Section 4.2.3, Master Plan Amendment 2, the alternatives would increase impervious surfaces and stormwater runoff; however, mitigation measures, including sediment and erosion controls and permanent stormwater management controls, would minimize these impacts.

Therefore, with mitigation measures, the alternatives' contribution to the cumulative impacts of other past, present, and future projects to surface water would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

Vegetation

Past development and construction activities have resulted in the removal of native vegetation as land was converted to agricultural uses and then to commercial, residential, and transportation uses. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, may also result in the removal of vegetation and the introduction of new landscaped areas. Future development may also result in increases in vehicular traffic and associated ozone, which, in turn, could harm vegetation since ozone can enter leaf openings and burn plant tissue (NPS, 2019e). As described in Section 4.2.4, the No Action Alternative would result in the removal of approximately 3 acres of vegetation and 7 specimen trees, and Alternatives A and B would each result in the removal of approximately 4 acres of vegetation and 9 specimen trees. The alternatives' contribution to the cumulative impacts of other past, present, and future projects to community services would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

Wildlife

Past development and construction activities have removed habitat and displaced native wildlife species as land was converted to agricultural uses and then to commercial, residential, and transportation uses. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, may also result in the removal of vegetation and the introduction of new landscaped areas. Construction activities, vehicles, and equipment associated with the planned development projects would increase noise levels, which may disturb wildlife. Increased traffic would also impact wildlife species indirectly through increased occurrence of animal strike. The removal of habitat as a result of planned development and redevelopment projects would impact wildlife by increasing the competition for available resources in the area.

As described in Section 4.2.5, the long-term impacts on wildlife under No Action Alternative, Alternative A, and Alternative B would be minor. The alternatives' contribution to the cumulative impacts of other past, present, and future projects to community services would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

4.10.4 Cultural Resources

Potentially significant, permanent cumulative impacts on historic buildings and landscape features have likely occurred from past construction and development in the vicinity of the West Campus. Implementation of portions of the West Campus Master Plan and the East Campus Master Plan have had adverse effects to historic buildings, including demolition of historic structures, and to landscape features that contributed to the St. Elizabeths NHL. The build-out of the West Campus would result in additional adverse impacts as assessed in the 2008 and 2012 EISs. The build-out of the East Campus Master Plan would also result in additional adverse effects on historic structures and landscape features. There is also potential for other planned development to affect cultural resources; however, these impacts cannot be determined at this time. The No Action Alternative, Alternative A, and Alternative B would each result in major adverse impacts due to demolition and removal of historic structures and landscape features. The alternatives' contribution to the cumulative impacts of other past, present, and future projects on cultural resources would be highly noticeable and significant resulting in major, long-term, adverse impacts.

4.10.5 Social and Economic Resources

Land Use Planning and Zoning

Past, present, and future development is planned for and approved in accordance with Federal and District land use plans including the Federal and DC Elements of the *Comprehensive Plan*, the St. Elizabeths East and West Campus Master Plans, and other plans and regulations as outlined in Section 3.4.1. The No Action Alternative, Alternative A, and Alternative B would, as described above, be consistent with land use plans and zoning. Therefore, there would not be cumulative impacts to land use planning and zoning.

Population and Housing

Past development and construction activities have resulted in increases in both population and housing as the area was converted to agricultural uses and then to commercial and residential uses. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, are expected to result in increased property values, which may benefit property owners and lead to additional tax revenues for the DC government. Increased property values may also lead to gentrification and impact current and future residents in the area who may not be able to afford increases in housing costs and property taxes. However, inclusion of affordable housing in planned developments, such as the East Campus and Barry Farm, would help minimize the impacts to housing and population. As described in Section 4.4.2, the No Action Alternative, Alternative A, and Alternative B would each result in negligible impacts to population and housing, and, therefore their contribution to the cumulative impacts of other past, present, and future projects would not be discernable and there would be negligible, long-term, adverse cumulative impacts.

Environmental Justice

As described in Section 4.4.3, the No Action Alternative, Alternative A, and Alternative B would not result in disproportional impacts to environmental justice communities and would not contribute to cumulative impacts to environmental justice communities. The contribution of remediation of contamination from the plateau site to the cumulative impacts of other past, present, and future remediation projects on the West Campus and in the vicinity of the West Campus would be slight, but detectable, resulting in beneficial cumulative impacts.

Economy, Employment, and Income

Past development and construction activities have resulted in beneficial impacts to the regional economy through expenditures on construction and through long-term employment at commercial enterprises. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, would result in expenditures for materials and labor which would have beneficial impacts on regional employment and the regional economy. Expenditures for construction activities and materials as well as employment opportunities under the No Action Alternative, Alternative A, and Alternative B would add a slight, but detectable, contribution to the beneficial cumulative impacts on the regional economy, employment, and income, resulting in beneficial cumulative impacts.

Taxes and Revenue

Past development and construction activities have increased the amount of taxes and revenues collected as land was converted to agricultural uses and then to commercial, residential, and transportation uses. Planned development on the West Campus would provide temporary increases to tax revenue during construction through the purchase of materials and supplies. Planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, would improve properties that would be subject to real property taxes, increasing tax revenue; this would result in a beneficial impact. The No Action Alternative, Alternative A, and Alternative B would each provide a temporary increase to tax revenue during construction through the purchase of materials and supplies adding to the beneficial cumulative impacts on the on taxes and revenue.

Community Services

Past development of the area around the West Campus has led to the creation of community services and led to increases in demand for these services. Continued planned development in the vicinity of the West Campus is anticipated to draw more residents, employees, and commuters to the area. This would increase the need for law enforcement, fire and rescue, and medical services. As described in Section 4.4.6, the No Action Alternative, Alternative A, and Alternative B would each have minor impacts on community service. The alternatives' contribution to the cumulative impacts of other past, present, and future projects to community services would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

Community Facilities

Past development of the area around the West Campus has led to the creation of community facilities and increases in use of these facilities. Continued planned development in the vicinity of the West Campus is anticipated to draw more residents, employees, and commuters to the area. Residents and employees of new developments would likely place an increased demand on libraries, public schools, childcare facilities, parks and recreation facilities, and religious facilities. As described in Section 4.4.7, the No Action Alternative, Alternative A, and Alternative B would each have a negligible impact on community facilities. The alternatives' contribution to the cumulative impacts of other past, present, and future projects to community services would be non-discernable resulting in negligible, long-term, adverse cumulative impacts.

4.10.6 Air Quality

Past development within Washington, DC has produced traffic and emission sources which have cumulatively affected air quality. As noted in the Air Quality Technical Report (Jacobs, 2019a), the District is currently designated as in nonattainment 8-hour ozone standards. The CAA enforces air quality standards and regulates new emission sources. The Sustainable DC Act of 2012 “promote[s] energy efficiency and renewable energy, including clean energy financing and supporting renewable energy incentive programs. The Sustainable DC Plan establishes goals and targets for responding to climate change, including commitments to reduce greenhouse gas emissions by 50 percent below 2006 levels by 2032 and 80 percent by 2050, and to advance climate adaptation and preparedness to make the District resilient to future climate change” (Jacobs, 2019a).

Planned projects on and in the vicinity of the West Campus, as described in Section 4.10.2, would result in additional air emissions from construction, new equipment such as heating and cooling and generators, and from vehicle emissions. Construction activities for planned projects may create fugitive dust and emissions from construction equipment. If construction activities occur simultaneously at multiple projects within the local area, the short-term cumulative concentration of dust and other construction emissions could increase near those activities. Development of any of the alternatives would also result in additional emissions as described in Section 4.5. As described in Section 4.5, temporary exhaust emissions from fuel combustion in motor vehicles and construction equipment, and fugitive particulate matter emissions from soil disturbance, earthwork, and other construction activities would result in a slight, but detectable, impact to air quality resulting in minor, short-term, adverse, cumulative impacts. Residents living south of the West Campus along Lebaum Street SE and students at the Friendship Technology Preparatory High School and the Friendship Public Charter School - Southeast Elementary Academy would experience the greatest cumulative impact from construction impacts; however, these impacts would be short-term and minor. These residents and students would be affected by air quality impacts associated with the demolition of Buildings 68 and 69, and impacts from dust and construction equipment emissions from the construction of Building A3 under Alternative A or Building B2 under Alternative B.

Long-term air quality emissions would be minimized with the use of newer vehicles and building mechanical equipment operate which have cleaner systems than older equipment. The No Action Alternative, Alternative A, and Alternative B would all result in long-term impacts to air quality from stationary and mobile sources and would add to the stationary and mobile air quality impacts of other planned projects resulting in slight, but detectable changes in air quality and minor, long-term, adverse cumulative impacts. The planned projects outlined in Section 4.10.2 along with the West Campus development are included in the Metropolitan Washington Council of Governments

(MWCOG) SIP and, therefore, the cumulative air quality impacts of the projects have been taken into consideration in the region's conformity with the CAA.

4.10.7 Noise

The West Campus is located in an urban area dominated by vehicular noise. Ongoing building and road construction activities, such as those on the East and West Campuses, Barry Farm redevelopment, and others contribute to noise levels in the vicinity of the West Campus. Planned projects on and in the vicinity of the West Campus, as described in Section 4.10.2, would result in additional noise from construction activities, equipment such as heating and cooling and generators, and from vehicular traffic.

If construction activities occur simultaneously at multiple projects within the local area, the short-term cumulative noise levels could increase near those activities. All construction and buildings from planned projects would operate in compliance with DC noise regulations. Development of any of the alternatives would result in short-term noise during construction and long-term noise from vehicular traffic and building equipment as described in Section 4.6. Residents living south of the West Campus along Lebaum Street SE and students at the Friendship Technology Preparatory High School and the Friendship Public Charter School - Southeast Elementary Academy would experience the greatest cumulative impact from construction impacts; however these impacts would be short-term and minor. These residents and students would be affected by noise generated by the demolition of Buildings 68 and 69, and noise from equipment used for the construction of Building A3 under Alternative A or Building B2 under Alternative B.

Temporary noise from construction activities would result in a slight, but detectable, amount to the cumulative impacts of simultaneous construction of other projects. The No Action Alternative, Alternative A, and Alternative B would all result in long-term, minor, adverse impacts to noise from building equipment and emergency generators and from traffic noise. The impacts would result in a slight, but detectable, changes in noise levels resulting in long-term, minor, adverse cumulative impacts.

4.10.8 Transportation

Past development in the DC region and in the vicinity of the West Campus has led to extensive vehicular traffic as well as the creation of public transit systems. As described in the 2012 EIS, "the District of Columbia is a highly urbanized area. The existing network of roadways is well-developed, but experiences frequent congestion, particularly during the morning and evening rush hours. There are numerous options available for public transit to ease demands on roadways, including buses and Metrorail, though public transit systems can also be congested" (GSA, 2012). Planned development

projects on and in the vicinity of the West Campus, as described in Section 4.10.2, would add to the volume of traffic on area roadways. Traffic generated by current and planned development has been included in the traffic modeling presented in the TTR (Jacobs, 2019c). Ongoing and planned projects to improve the local roadway network including the I-295/Malcolm X Avenue SE Interchange and turn lanes on Martin Luther King Jr. Avenue SE would alleviate some congestion created by the West Campus and other area developments. The DHS TMP and regional initiatives to reduce the use of single-occupancy vehicles such as car-sharing and telework will also minimize the cumulative impacts of the proposed action and other planned development on transportation. With implementation of these measures, along with other planned local and regional transportation projects, there would be slight, but detectable, changes in traffic resulting in long-term, minor, adverse cumulative impacts.

Planned projects on and in the vicinity of the West Campus, as described in Section 4.10.2, would impact traffic with the increase of construction vehicles on area roadways. If construction activities occur simultaneously at multiple projects within the local area, there would be short-term cumulative impacts from construction vehicles on Martin Luther King Jr. Avenue SE, Malcolm X Avenue SE, and I-295. The increase in construction traffic would be noticeable, but short-term, resulting in minor, adverse cumulative impacts.

4.10.9 Utilities

Electrical Service

Past development and construction activities have increased the demand for electrical service as land was converted to commercial, residential, and transportation uses. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, would lead to additional increased demand for electrical service. Construction activities for planned development could lead to temporary disruptions in electrical service as lines are replaced and extended. As described in Section 4.8.1, the No Action Alternative, Alternative A, and Alternative B would have minor impacts on electrical service. The alternatives' contribution to the cumulative impacts of other past, present, and future projects on electrical service would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

Natural Gas Service

Past development and construction activities have increased the demand for natural gas service as land was converted to commercial and residential uses. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as

described in Section 4.10.2, would lead to additional increased demand for natural gas service. Construction activities of planned development could lead to temporary disruptions in natural gas lines are replaced and extended. As described in Section 4.8.2, the No Action Alternative, Alternative A, and Alternative B would have minor impacts on natural gas service. The alternatives' contribution to the cumulative impacts of other past, present, and future projects on natural gas service would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

Water Service

Past development and construction activities have increased the demand for water service as land was converted to commercial and residential uses. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, would lead to additional increased demand for water service. Construction activities of planned development could lead to temporary disruptions in water lines are replaced and extended. As described in Section 4.8.3, the No Action Alternative, Alternative A, and Alternative B would have minor impacts on water service. The alternatives' contribution to the cumulative impacts of other past, present, and future projects on water service would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

Sanitary Sewer System

Past development and construction activities have increased the demand for sanitary sewer service as land was converted to commercial and residential uses. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, would lead to additional increased demand for sewer service. Construction activities of planned development could lead to temporary disruptions in sewer lines are replaced and extended. As described in Section 4.8.4, the No Action Alternative, Alternative A, and Alternative B would have minor impacts on sanitary sewer service. The alternatives' contribution to the cumulative impacts of other past, present, and future projects on sanitary sewer service would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

Solid Waste Management

Past development and construction activities have led to increases in solid waste produced. Planned development and redevelopment projects in the vicinity of the West Campus, as described in Section 4.10.2, would lead to additional solid waste production and place increased demand on solid waste disposal services. As described in Section 4.8.5, the No Action Alternative, Alternative A, and Alternative B would have minor impacts on solid waste management. The alternatives' contribution

to the cumulative impacts of other past, present, and future projects on solid waste management would be slight, but detectable, resulting in minor, long-term, adverse cumulative impacts.

4.10.10 Environmental Contamination

Past development on and in the vicinity of the West Campus has resulted in environmental contamination. Planned development on the West Campus and planned residential and commercial development in the vicinity of the West Campus, as described in Section 4.10.2, is not anticipated to result in environmental contamination as current regulations governing the creation, use, and disposal of hazardous materials and waste are much stricter than in the past. Future redevelopment projects may result in remediation of environmental contaminants, and past and future remediation of contaminants on the West Campus has resulted in beneficial impacts. The No Action Alternative, Alternative A, and Alternative B would each result in remediation of hazardous materials and contamination adding to the beneficial cumulative impacts of other past, present, and future projects.

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5. Summary of Impacts

Table 5-1 provides a comparison of impacts associated with Master Plan Amendment 2. Detailed information on impacts is located in Chapter 4, Environmental Consequences.

Table 5-1 Impact Intensity Thresholds

Issue	No Action Alternative	Alternatives A and B
NATURAL RESOURCES		
Geology, Topography, and Soils (Section 4.2.1)	<ul style="list-style-type: none"> • No impacts to geology • Direct, long-term, negligible, adverse impacts to topography from grading and construction activities • Direct, long-term, minor, adverse impact from removal of soils • Total soil disturbance of 6 acres • Direct, long-term, negligible adverse impact from soil erosion. • No indirect impact to geology and topography • Indirect, minor, adverse impact from soil erosion • Indirect, long-term, major, adverse impact from the risk of future slope failure • Minor, long-term, adverse, cumulative impacts when combined with planned development on the West Campus and the surrounding vicinity 	<ul style="list-style-type: none"> • No impacts to geology • Direct, long-term, minor adverse impacts to topography • Direct and indirect, long-term, minor, adverse impacts from the removal of soils • Disturbance of 1 acre of soil by demolition • Total soil disturbance from construction of 8 acres under Alternative A and 9 acres under Alternative B • Direct, long-term, moderate, adverse impacts due to soil erosion and risk of slope failure • No indirect impacts to geology • No indirect impacts to topography would occur • Indirect, beneficial impacts from the reduction in the potential for slope failure and soil erosion • Minor, long-term, adverse, cumulative impacts when combined with planned development on the West Campus and the surrounding vicinity
Groundwater (Section 4.2.2)	<ul style="list-style-type: none"> • Direct, long-term, minor adverse impact from the potential to intercept the perched groundwater table from construction of buildings • Direct, long-term, minor, adverse impacts to building from potential groundwater infiltration • Indirect, long-term, minor, adverse impacts from an increase in impervious surfaces • Increase of impervious surface by 4 acres • Negligible, long-term, adverse, cumulative impacts to groundwater when combined with other past and future projects 	<ul style="list-style-type: none"> • Direct, long-term, minor adverse impact from the potential to intercept the perched groundwater table from construction of buildings • Direct, long-term, minor, adverse impacts to building from potential groundwater infiltration • Indirect, long-term, minor, adverse impacts from an increase in impervious surface. • Increase of impervious surface by 4 acres under Alternative A and 3 acres under Alternative B • Negligible, long-term, adverse, cumulative impacts to groundwater when combined with other past and future projects

Issue	No Action Alternative	Alternatives A and B
Surface Water (Section 4.2.3)	<ul style="list-style-type: none"> No direct impacts to surface water Indirect, short and long-term, negligible, adverse impacts to water quality No long-term impacts to the perennial stream and adjacent wetlands along the southwest property boundary 57% increase in impervious surface in the Study Area; 0.032% increase in the Lower Anacostia River Watershed; and 0.014% increase in the Anacostia River Watershed Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to surface water impacts from other past, present, and future projects 	<ul style="list-style-type: none"> No direct impacts to surface water Indirect, short-term, negligible, adverse impacts to water quality from construction activities Indirect, long-term, negligible, adverse impacts to surface water No long-term impacts to the perennial stream and adjacent wetlands along the southwest property boundary 57% increase in impervious surface in the Study Area under Alternative A and 43% increase under Alternative B 0.032% increase in impervious surface in the Lower Anacostia River Watershed under Alternative A and 0.024% increase under Alternative B 0.014% increase in impervious surface in the Anacostia River Watershed under Alternative A and 0.011% increase under Alternative B Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to surface water impacts from other past, present, and future projects
Vegetation (Section 4.2.4)	<ul style="list-style-type: none"> No direct impacts to vegetation or specimen trees on Sweetgum Lane Direct, long-term, moderate, adverse impacts from the removal of vegetation on the plateau site Removal of 3.5 acres of vegetation and 7 specimen trees Beneficial impacts from landscaping No indirect impacts to vegetation Minor, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> No direct impacts to specimen trees on Sweetgum Lane Direct, long-term, moderate, adverse impacts from the removal of vegetation on the plateau and Sweet Gum Lane sites Removal of 4 acres of vegetation and 9 specimen trees under both Alternative A and B Beneficial impacts from landscaping No indirect impacts to vegetation Minor, long-term, adverse, cumulative impacts
Wildlife (Section 4.2.5)	<ul style="list-style-type: none"> Direct, short-term, minor, adverse impacts to wildlife during construction from noise and/or displacement Direct, long-term, minor, adverse impacts from habitat loss Direct, short- and long-term, minor, adverse impacts on migratory birds from removal of forest Indirect, long-term, minor, adverse impacts from loss of habitat Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to vegetation impacts from other past, present, and future projects 	<ul style="list-style-type: none"> Direct, short-term, minor, adverse impacts to wildlife during construction from noise and/or displacement of wildlife Direct, long-term, minor, adverse impacts from habitat loss Direct, short- and long-term, minor, adverse impacts on migratory birds from removal of forest Indirect, long-term, moderate, adverse impacts from loss of habitat Minor, long-term, adverse, cumulative impacts from a slight, but detectable contribution to vegetation impacts from other past, present, and future projects

Issue	No Action Alternative	Alternatives A and B
CULTURAL RESOURCES		
<p>Historic Properties and Buildings (Section 4.3.1)</p>	<ul style="list-style-type: none"> • Beneficial impacts from the rehabilitation of contributing buildings • Direct, long-term, moderate, adverse on the historic fabric of the buildings • Direct, long-term, major adverse impacts on the overall setting, feeling, and association of the West Campus as a residential treatment facility • Indirect, long-term, minor to major, adverse impacts to views and vistas • Major, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • Beneficial impacts from the rehabilitation of contributing buildings • Direct, long-term, minor to moderate, adverse impact on the design, workmanship, setting, feeling, and association of buildings • Under Alternative B, proposed buildings would be located further from the ravine; adverse impact is lessened when compared to Alternative A • Direct, long-term, major, adverse impacts from the removal of 6 contributing buildings and the visual zone of the South Lawn • Indirect, long-term, moderate, adverse impacts on views from Congress Heights • Major, long-term, adverse, cumulative impacts
<p>Landscape Resources (Section 4.3.2)</p>	<ul style="list-style-type: none"> • Direct, long-term, major, adverse impacts on the St. Elizabeths cultural landscape • Direct, long-term, major, adverse impacts to views and vistas • Major, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • Adverse impacts intensified from the 2008 EIS; direct, long-term, major, adverse impacts on the Power House ravine more intense under Alternative A • Direct, long-term, major, adverse impacts to historic vehicular and pedestrian circulation on the campus • Direct, long-term, major, adverse impacts to views and visual zones on the plateau site from new construction • Direct, long-term, moderate, adverse impacts of views of the Sweetgum Lane site • Major, long-term, adverse, cumulative impacts
SOCIAL AND ECONOMIC RESOURCES		
<p>Land Use Planning and Zoning (Section 4.4.1)</p>	<ul style="list-style-type: none"> • No direct or indirect impacts on zoning or land use planning • No cumulative impacts 	<ul style="list-style-type: none"> • Beneficial impacts on land use planning and zoning • No direct adverse impacts to land use planning and zoning • No indirect impacts to land use planning, and zoning • No cumulative impacts
<p>Population and Housing (Section 4.4.2)</p>	<ul style="list-style-type: none"> • No direct impacts to population and housing • Indirect, long-term, minor, adverse impact on housing stocks from the relocation of employees • Negligible, long-term, adverse, cumulative impacts when combined with the cumulative impacts of other past, present, and future project 	<ul style="list-style-type: none"> • No direct impacts to population and housing • Indirect, long-term, minor, adverse impact on housing stocks from the relocation of employees • Negligible, long-term, adverse, cumulative impacts when combined with the cumulative impacts of other past, present, and future project

Issue	No Action Alternative	Alternatives A and B
Environmental Justice (Section 4.4.3)	<ul style="list-style-type: none"> • No direct, adverse impacts to environmental justice communities • Indirect, short-term, negligible, adverse impacts to local communities • Beneficial impacts from the removal of hazardous materials • Minor, long-term, beneficial, cumulative impacts from remediation of contamination within the plateau site 	<ul style="list-style-type: none"> • No disproportionate direct, adverse impacts to low-income populations, minority residents, elderly, or children • Indirect, short-term, negligible, adverse impacts to local communities • Beneficial impacts from the removal of hazardous materials • Minor, long-term, beneficial, cumulative impacts from remediation of contamination within the plateau site
Economy, Employment, and Income (Section 4.4.4)	<ul style="list-style-type: none"> • Beneficial impacts from the expenditure of capital for the proposed development • Minor, long-term, beneficial, cumulative impacts 	<ul style="list-style-type: none"> • Beneficial impacts from an increase in employment and personal income • Indirect long-term, minor, and adverse impacts from construction and renovation • Minor, long-term, beneficial, cumulative impacts
Taxes and Revenue (Section 4.4.5)	<ul style="list-style-type: none"> • No direct impact to taxes and revenue • Beneficial indirect impacts from an increase in tax revenue during construction • Minor, beneficial, cumulative impacts 	<ul style="list-style-type: none"> • No direct impact to taxes and revenue • Beneficial indirect impacts from an increase in tax revenue during construction • Minor, beneficial, cumulative impacts
Community Services (Section 4.4.6)	<ul style="list-style-type: none"> • No direct impacts to community services • Indirect, long-term, minor, adverse impacts from a modest increase in calls for service • Minor, long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • No direct impacts to community services. • Indirect, long-term, minor, adverse impacts from a modest increase in calls for service • Minor, long-term, adverse, cumulative impacts
Community Facilities (Section 4.4.7)	<ul style="list-style-type: none"> • No direct impacts to community facilities • Indirect, long-term, negligible, adverse impact from an increase in use of community facilities • Negligible, long-term, adverse, cumulative impacts when combined with the impacts of other past, present, and future projects 	<ul style="list-style-type: none"> • No direct impacts to community facilities • Indirect, long-term, negligible, adverse impact from an increase in use of community facilities • Negligible, long-term, adverse, cumulative impacts when combined with the impacts of other past, present, and future projects

Issue	No Action Alternative	Alternatives A and B
AIR QUALITY		
Air Quality (Section 4.5.1)	<ul style="list-style-type: none"> • Direct, short- and long-term, minor, adverse impacts due to increase in traffic volumes and increase in mobile source emissions • Minor, short- and long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impacts from construction emissions • Direct, long-term, minor, adverse impacts from stationary sources • No new adverse impacts from vehicle emissions • No additional MSAT impacts compared to Master Plan Amendment 1 • Total VOC and NOx emissions below <i>de minimis</i> thresholds • Long-term, minor, adverse impacts from operation of the CUP and increase in traffic volumes • No increase in GHG emissions compared to Master Plan Amendment 1 • Minor, short- and long-term, adverse, cumulative impacts
NOISE		
Noise (Section 4.6.1)	<ul style="list-style-type: none"> • No new noise impacts • Minor, short- and long-term, adverse, cumulative impacts 	<ul style="list-style-type: none"> • Short- and long-term, minor, adverse impacts • No new traffic noise impacts • Minor, short- and long-term, adverse, cumulative impacts
TRANSPORTATION		
Transportation (Section 4.7.1)	<ul style="list-style-type: none"> • Long-term, minor, adverse impacts to traffic conditions in the vicinity of St. Elizabeths • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Short-term, minor, adverse impacts from construction traffic • Long-term, minor, adverse impacts to traffic conditions in the vicinity of St. Elizabeths • Minor, long-term, adverse, cumulative impacts
UTILITIES		
Electrical Service (Section 4.8.1)	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impacts from disruptions in electrical service • Direct, long-term, minor, adverse impacts from a slight increase in electrical demand • Indirect, negligible, adverse impacts to regional electrical service • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impacts from disruptions in electrical service • Direct, long-term, minor, adverse impacts from a slight increase in electrical demand. • Indirect, negligible, adverse impacts to regional electrical service • Minor, long-term, adverse cumulative impacts

Issue	No Action Alternative	Alternatives A and B
Natural Gas Service (Section 4.8.2)	<ul style="list-style-type: none"> • Direct, short-term, negligible, adverse impacts from non-discernable disruption to onsite natural gas service during construction • Direct, long-term, minor, adverse from an increase in demand • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term, negligible, adverse impacts from non-discernable disruption to onsite natural gas service during construction • Direct, long-term, minor, adverse from an increase in demand • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts
Water Service (Section 4.8.3)	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in water service during construction • Direct, long-term, minor, adverse impacts from an increase in water demand • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in water service during construction • Direct, long-term, minor, adverse impacts from an increase in water demand • Indirect, negligible, adverse impacts • Minor, long-term, adverse cumulative impacts
Sanitary Sewer System (Section 4.8.4)	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in sewer service during construction • Direct, long-term, minor, adverse impacts from an increase in sewage treated by DC Water • Indirect, long-term negligible, adverse impacts • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from disruptions in sewer service during construction • Direct, long-term, minor, adverse impacts from an increase in sewage treated by DC Water • Indirect, long-term negligible, adverse impacts • Minor, long-term, adverse cumulative impacts
Solid Waste Management (Section 4.8.5)	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from increases in solid waste during construction • Direct, long-term, minor, adverse impacts from an increase in solid waste • Indirect, long-term minor, adverse impacts from an increase in the waste stream at the Covanta Waste to Energy Plant • Minor, long-term, adverse cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term minor, adverse impacts from increases in solid waste during construction • Direct, long-term, minor, adverse impacts from an increase in solid waste • Indirect, long-term minor, adverse impacts from an increase in the waste stream at the Covanta Waste to Energy Plant • Minor, long-term, adverse cumulative impacts

Issue	No Action Alternative	Alternatives A and B
ENVIRONMENTAL CONTAMINATION		
Environmental Contamination	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impact from a slight, but detectable, increase of environmental contaminants sent to EPA-approved landfills • Beneficial impacts from removal of hazardous materials in renovated buildings and removal of fly ash and contaminated soils • Beneficial, cumulative impacts 	<ul style="list-style-type: none"> • Direct, short-term, minor, adverse impact from a slight, but detectable, increase of environmental contaminants sent to EPA-approved landfills • Beneficial impacts from removal of hazardous materials in renovated buildings and removal of fly ash and contaminated soils • Beneficial, cumulative impacts

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7. Acronyms

ACHP – Advisory Council on Historic Preservation

ACM – Asbestos containing material

APE – Area of potential effects

AST – above ground storage tanks

ATR – Automated Traffic Recorder

AWDT – average weekday daily traffic

AWI – Anacostia Waterfront Initiative

BEA – Bureau of Economic Analysis

BFR – Barry Farm Redevelopment

BGEPA – Bald and Golden Eagle Protection Act

BMP – best management practices

CAA – Clean Air Act

CBP – U.S. Customs and Border Protection

CEQ – Council on Environmental Quality

CFA – U.S. Commission of Fine Arts

CFC – chlorofluorocarbons

CFR – Code of Federal Regulations

CHASE – Congress Heights, Anacostia, and St. Elizabeths

CH₄ – methane

CISA – Cybersecurity and Infrastructure Security Agency

CIS – U.S. Citizenship and Immigration Services

CLR – Cultural Landscape Report

CO – carbon monoxide

CO₂ – carbon dioxide

CO₂e – carbon dioxide equivalent

CRCL – Office for Rights and Civil Liberties

CUP – Central Utility Plant

CUP2 – Central Utility Plant Expansion

CWA – Clean Water Act

CWMD – Countering Weapons of Mass Destruction Office

cy – cubic yards

CZMA – Coastal Zone Management Act

dBA – A-weighted decibels

DC DPR – District of Columbia Department of Parks and Recreation

DCSHPO – DC State Historic Preservation Office

DCMR – DC Municipal Regulations

DC OCFO – DC Office of the Chief Financial Officer

DC OCTO – DC Office of the Chief Technology Officer

DCOP – DC Office of Planning

DC OSSE – DC Office of the State Superintendent of Education

DC OTR – DC Office of Tax and Revenue

DCOZ – DC Office of Zoning

DCPL – DC Public Library

DC Water – DC Water and Sewer Authority

DDOT – District Department of Transportation

DHS – Department of Homeland Security

DMPED – Deputy Mayor for Planning and Economic Development

DOEE – Department of Energy and Environment

DOH – Department of Health

DPR – Department of Parks and Recreation

ECC – Environmental Consultants and Contractors, Inc.

EIS – Environmental Impact Statement

EISA – Energy Independence and Security Act

EJ IWG – Federal Interagency Working Group on Environmental Justice

EJSCREEN – Environmental Justice Screening and Mapping Tool

EM – Environmental Monitor

EO – Executive Order

EPA – U.S. Environmental Protection Agency

ESA – Environmental Site Assessment

ESEC – Office of the Executive Secretary

FEMA – Federal Emergency Management Agency

FHWA – Federal Highway Administration

FR – Federal Register

FIRM – Flood Insurance Rate Map

FLETC – Federal Law Enforcement Training Centers

FONSI – Finding of No Significant Impact

G&O – Greenhorne & O’Mara, Inc.

GA – William H. Gordon Associates, Inc.

GDP – gross domestic product

GHG – Greenhouse Gas

GIS – Geographic Information System

gpd – gallons per day

GSA – U.S. General Services Administration

gsf – gross square feet

HABS – Historic American Building Survey

HALS – Historic American Landscape Survey

HAP – hazardous air pollutant

HCFC – hydro-chlorofluorocarbons

HHS – U.S. Department of Health and Human Services

HRSA – Health Resources & Services Administration

HSEMA – Homeland Security and Emergency Management Agency

I&A – Office of Intelligence and Analysis

ICE – U.S. Immigration and Customs Enforcement

IPaC – Information for Planning and Consultation

ISC – Interagency Security Committee

JBAB – Joint Base Anacostia-Bolling

LBP – lead-based paint

LEED – Leadership in Energy & Environmental Design

LIP – Landscape Integration Plan

LOS – Level of Service

LPP – Landscape Preservation Plan

MTA – Maryland Transit Authority

MACT – maximum achievable control technology

MBTA – Migratory Bird Treaty Act

mgd – million gallons per day

MOA – Memorandum of Agreement

MOVES – Motor Vehicle Emission Simulator

MPD – DC Metropolitan Police Department

mph – miles per hour

msl – mean sea level

MSAT – mobile source air toxics

MUP – Modular Utility Plant

MWCOG – Metropolitan Washington Council of Governments

NAAQS – National Ambient Air Quality Standards

NAC – Noise Abatement Criteria

NCI – New Communities Initiative

NCPC – National Capital Planning Commission

NCR – National Capital Region

NEPA – National Environmental Policy Act

NESHAP – National Emission Standards for Hazardous Air Pollutants

NHL – National Historic Landmark

NHPA – National Historic Preservation Act

NO_x – nitrogen oxides

NO₂ – nitrogen dioxide

N₂O – nitrous oxide

NOA – Notice of Availability

NOI – Notice of Intent

NPDES – National Pollutant Discharge Elimination System

NPS – National Park Service

NRCS – Natural Resources Conservation Service

NRHP – National Register of Historic Places

NSC – Neighborhood Service Coordinators

NSPS – New Source Performance Standards

NSR – New Source Review

NWI – National Wetland Inventory

O₃ – Ozone

ODS – ozone-depleting substances

OGC – Office of the General Counsel

OIG – Office of Inspector General

OLA – Office of Legislative Affairs

OPA – Office of Public Affairs

OPE – Office of Partnership and Engagement

OWSC – one-way stop-controlled

P100 – Facilities Standards

PA – Programmatic Agreement

PAH – polycyclic aromatic hydrocarbons

Pb – lead

PCB – polychlorinated biphenyls

PBS – Public Building Service

PEPCO – Potomac Electric Power Company

PFC – perfluorocarbons

P.L. – Public Law

PM_{2.5} – particulate matter less than 2.5 microns in aerodynamic diameter

PM₁₀ – particulate matter less than 10 microns in aerodynamic diameter

PSA – Police Service Area

PUD – Planned Unit Development

RCRA – Resource Conservation and Recovery Act

RIMS II – Regional Input-Output Modeling System

R.I.S.E. – Relate, Innovate, Stimulate, and Elevate Demonstration Center

ROD – Record of Decision

RPP – Residential Permitted Parking

S&T – Science and Technology Directorate

sf – square feet

SFHA – Special Flood Hazard Area

SHPO – State Historic Preservation Office

SIP – State Implementation Plan

SO₂ – sulfur dioxide

SF₆ – sulfur hexafluoride

SVOC – semi-volatile organic compounds

SWMG – Stormwater Management Guidebook

TECH Prep – Friendship Technology Preparatory Academy

THEARC – Town Hall Education, Arts, and Recreation Campus

TMP – Transportation Management Plan

tpy – tons per year

TSA – Transportation Security Administration

TSCA – Toxic Substances Control Act

TSI – Thermal System Insulation

TTR – Transportation Technical Report

TWSC – two-way stop-controlled

UCC – Unified Communications Center

UMC – United Medical Center

UPO – United Planning Organization

USACE – U.S. Army Corps of Engineers

USDA – U.S. Department of Agriculture

USFWS – U.S. Fish and Wildlife Service

U.S.C. – United States Code

USCG – U.S. Coast Guard

USGS – U.S. Geological Survey

USSS – U.S. Secret Service

UST – underground storage tanks

VOC – volatile organic compounds

WBJ – Washington Business Journal

WMATA – Washington Metropolitan Area Transit Authority

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