U.S. FOOD AND DRUG ADMINISTRATION
MUIRKIRK ROAD CAMPUS MASTER PLAN

Draft Environmental Impact Statement

June 2021

Prepared by:

GSA

In cooperation with:

FDA U.S. FOOD & DRUG ADMINISTRATION

This page left intentionally blank.

FDA Muirkirk Road Campus Master Plan

Draft Environmental Impact Statement

Responsible Agency:
U.S. General Services Administration
National Capital Region
1800 F Street, NW
Washington, DC 20405

In cooperation with the
U.S. Food and Drug Administration

The U.S. General Services Administration (GSA) and the U.S. Food and Drug Administration (FDA) are studying the potential impacts that would result from the implementation of a Master Plan to accommodate future growth and further consolidate FDA operations at the Muirkirk Road Campus (MRC) in Laurel, Maryland. The Master Plan would provide a framework for development at the MRC to accommodate up to 1,800 FDA employees and support staff. This Draft Environmental Impact Statement (EIS) analyzes the impacts of the No-Action Alternative and three Action Alternatives.

Questions or comments on the Draft EIS should be addressed to:

Mr. Marshall Popkin
U.S. General Services Administration
National Capital Region
1800 F Street, NW Room 4400
Washington, DC 20405
Marshall.Popkin@gsa.gov

Written comments on the Draft EIS must be postmarked by July 19, 2021.

If you wish to comment on the Draft EIS, you may submit comments electronically or directly by mail. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made 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.

EXECUTIVE SUMMARY

GSA on behalf of FDA has prepared this Draft EIS to assess impacts of the proposed Master Plan at the MRC. The No-Action Alternative and three Action Alternatives are studied in detail in this Draft EIS. The 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 49 Code of Federal Regulations (CFR) Parts 1500 to 1508; and
- Public Buildings Service National Environmental Policy Act – (PBS) NEPA Desk Guide (GSA, October 1999).

PURPOSE OF THE PROPOSED ACTION

The purpose of the proposed Master Plan is to provide FDA with a structured framework for developing the MRC over the next 20 years in a manner that maximizes the site's development potential and accommodates all relevant physical, cultural, environmental, historic, transportation, and regulatory considerations in a cost-effective way. FDA is projecting an increase in employees and campus support staff at the MRC and will need additional office space and shared use space in order to conduct complex and comprehensive reviews. There are currently 300 FDA employees at the MRC. The Master Plan is being prepared to guide the development to accommodate a total of 1,800 employees. The projected growth for FDA is an additional 700 employees to the MRC over the next 5 to 6 years, and an additional 800 employees during future development phases over the next 20 years. The growth includes funded staff vacancies, existing employees currently in other leased spaces in suburban Maryland outside the MRC, FDA support staff, and future expansion.

The proposed action assessed in this document is the implementation of a Master Plan for FDA, to include the following:

- Development of approximately 438,000 gross square feet (gsf), including approximately 375,000 gsf of additional office space and up to 63,000 gsf of special use/shared space to support FDA's mission for a total of up to 918,000 gsf at the MRC
- Parking would be provided at a ratio of 1 space for every 2 employees (1:2) for a total of 900 parking spaces for FDA employees and campus support staff
- 80 surface parking spaces for visitors

NEED FOR THE PROPOSED ACTION

A Master Plan is needed to accommodate projected growth and to continue to support FDA's consolidation in order to conduct complex and comprehensive research and reviews. The MRC Master Plan will steer the planning, design, and construction of new buildings; improvements to roadways, utilities, and other infrastructure; and the protection of natural areas. To accommodate this increase in personnel, GSA and FDA are studying ways to expand office space at the MRC. Comments received on the Draft and Final EIS and through consultation with Federal, state, and county agencies will help to inform consolidation decisions and how future development will occur at the MRC. This decision would be documented in a Record of Decision (ROD). The ROD would outline the selected alternative for the Master Plan and describe measures the Government would take to reduce impacts from implementation of the Master Plan.

ALTERNATIVES ANALYZED

NO-ACTION ALTERNATIVE

NEPA requires GSA and FDA to consider the No-Action Alternative because it provides a baseline for evaluating the environmental impacts of the Master Plan Alternatives. The No-Action Alternative provides a comparison of each of the Master Plan Alternatives in relation to current operations.

Under the No-Action Alternative, a new MRC Master Plan would not be adopted, and FDA would continue its current operations at the MRC. The site would continue to be occupied by the Center for Veterinary Medicine (CVM) and Center for Food Safety and Applied Nutrition (CFSAN) support staff. No new office, laboratory, or special use facilities would be constructed, and the number of employees and support staff would remain at 300.

NO-ACTION ALTERNATIVE SUMMARY

- 480,000 gsf of office and laboratory space
- 300 assigned personnel
- Approximately 40 visitors per day
- 32 acres of pastures
- 320 surface parking spaces for employees, support staff, and visitors

At present, the MRC is home to:

- 480,000 gsf office and laboratory space
- 300 assigned personnel to the MRC (specifically CFSAN and CVM employees, and support staff)
- Approximately 40 visitors per day
- 32 acres of pastures
- 320 parking spaces for employees, support staff, and visitors (all surface parking)

FDA would continue to operate at several locations within the region to accommodate its employees and support staff to continue to fulfill its mission. Any additional FDA employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The housing of employees outside the MRC would continue to result in inefficiencies in coordination of work products and in use of administrative, management, and technical support functions. It should be noted that the No-Action Alternative does not meet the purpose and need of the proposed Master Plan.

ACTION ALTERNATIVES

Each of the MRC Master Plan Action Alternatives would provide a total of 918,000 gsf of building space **(Table E-0-1**). The existing MOD 1 and MOD 2 buildings totaling 480,000 gsf would be retained, and 438,000 gsf of new office building and special use space would be constructed. Special use space would include a truck screening facility, visitor/amenity center, maintenance and storage area, conference center, cafeteria, and fitness center. Each of the Master Plan Action Alternatives would add 1,500 new employees and support staff and approximately 207 visitors per day would be anticipated. The Master Plan includes 900 parking spaces for employees and support staff (one parking space for every two employees and support staff), and 80 parking spaces for visitors, for a total of 980 parking spaces. The Action Alternatives would add a new entry gate at Odell Road and assume the back road entrance for emergency and special access would remain. Each Action Alternative emphasizes connectivity and walkability and envisions underground service corridors and skybridges between existing and new buildings. Each of the Action Alternatives would maintain tree cover and minimize environmental

disturbances to include a 100-foot vegetation buffer along the perimeter and a 300-foot buffer along the western perimeter. Bioswales, green roofs, and green façades adjacent to parking garages would be provided.

Impacts for each alternative are summarized in **Table E-0-2**.

Table E-0-1. Summary of MRC Master Plan Components

	Existing to be Retained	Phase 1 (5 –6 years)	Phase 2 (7 – 20 years)	Total
Existing Office/Laboratory Space to be retained (gsf)	480,000	0	0	480,000
Proposed Office Space (gsf)		175,000	200,000	375,000
Special Use Space (gsf)		63,000		63,000
Employees	300	700	800	1,800
Total Employee Parking*		500	400	900
Total Visitor Parking*		80	0	80

**New parking includes replacement of existing parking displaced by new buildings.*

Alternative A – Compact Campus

Development would be concentrated near the MOD 1 and MOD 2 buildings, and new buildings would be placed to the north and west of the MOD 1 and MOD 2 buildings under Alternative A. A strategically positioned atrium would allow for a view from the main entry, through the new building, into the forested stream valley at the center of the campus.

ALTERNATIVE A SUMMARY

- 375,000 gsf of office space in two new buildings
- Office buildings up to 5- to 6-stories tall
- 63,000 gsf of new special use spaces
- Two new 3-story parking garages with 900 spaces
- 80 surface parking spaces for visitors
- Elevated boardwalk & skybridge bridges

Alternative A would include two new office buildings up to five to six stories tall adjacent to the existing MOD 1 and MOD 2 buildings. The existing surface parking lot west of MOD 1 would be replaced with a new building. The new building north of MOD 1 would be visible from the main entrance at Muirkirk Road. However, most of the building volume would be screened by forested areas that form the perimeter landscape buffer. Two new parking garages three-stories tall would be located at the BRF site that would contain 900 parking spaces and 80 surface parking spaces would be provided for visitors. An elevated boardwalk would be constructed within the natural landscape amenity space east of the MOD 1 and MOD 2 buildings. Two pedestrian skybridges would connect MOD 1 to the new buildings to the north and west.

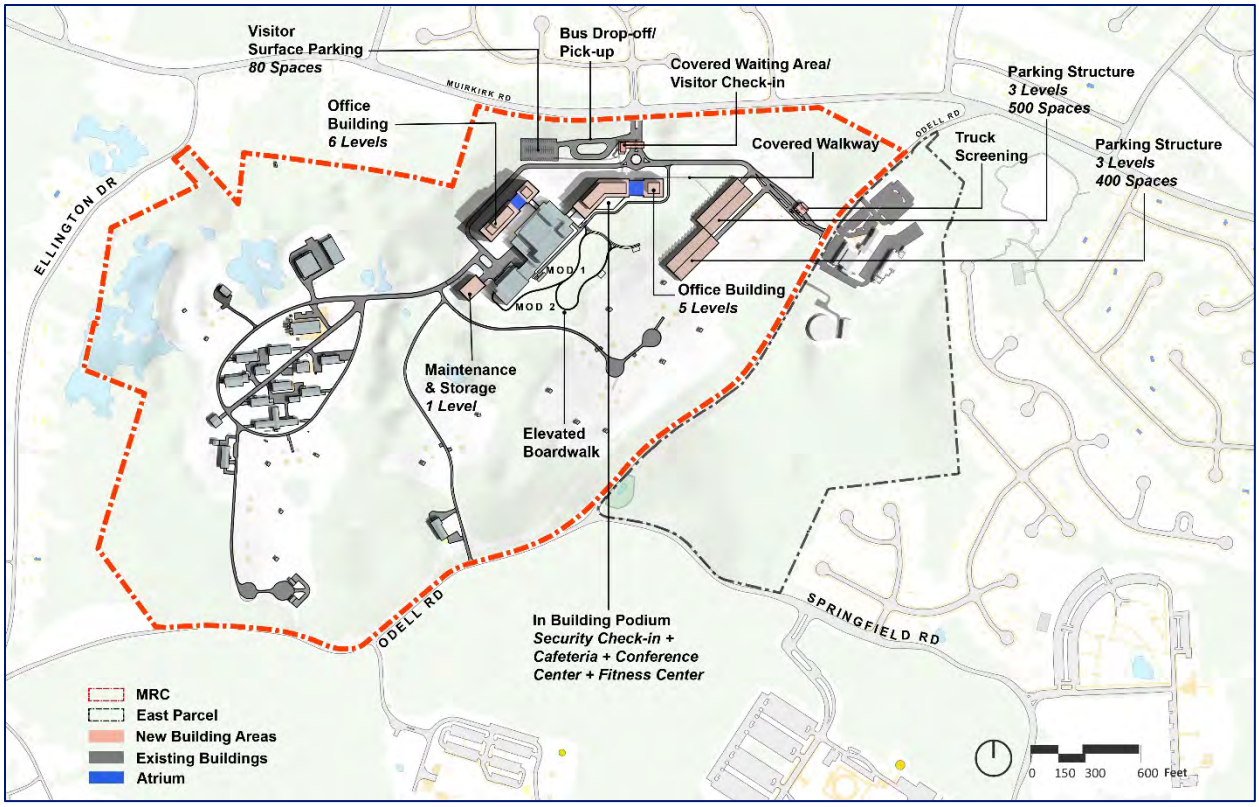


Figure 0-1. Alternative A - Compact Campus

Alternative B – Dual Campus

Development would be provided by distributing development between the MOD 1 and MOD 2 buildings and the BRF. The new buildings would be barely visible from the main entrance on Muirkirk Road as most of the building volume would be screened by forested areas that form the perimeter landscape buffer.

ALTERNATIVE B SUMMARY

- 375,000 gsf of office space in three new buildings
- Office buildings up to 5-stories tall
- 63,000 gsf of new special use spaces
- Two new 3-story parking garages with 900 spaces
- 80 surface parking spaces for visitors
- Elevated boardwalk and skybridges

With Alternative B, two new buildings up to five stories tall would be constructed to the northeast of MOD 1 and a third, three-story building would be constructed to the south of MOD 2. Building heights would stay within the range of the existing MOD 1 building. The two new buildings would be connected by a sky-bridge. An additional skybridge would connect the new building to the MOD 1 building. One parking garage would be constructed to replace the existing surface parking lot west of the MOD 1 and MOD 2 buildings. The second parking garage would be constructed at the BRF site. These garages would be up to three stories tall and provide 900 employee and support stuff parking spaces and 80 surface parking spaces woAuld also be provided for visitors. An elevated boardwalk would be constructed within the natural landscape amenity space north of the MOD 1 building.

Like in Alternative A, the new building north of MOD 1 would be visible from the main entrance at Muirkirk Road. However, most of the building volume would be screened by forested areas that form the perimeter landscape buffer. A strategically positioned atrium would allow for a view from the main entry, through the new building, into the forested stream valley at the center of the campus.

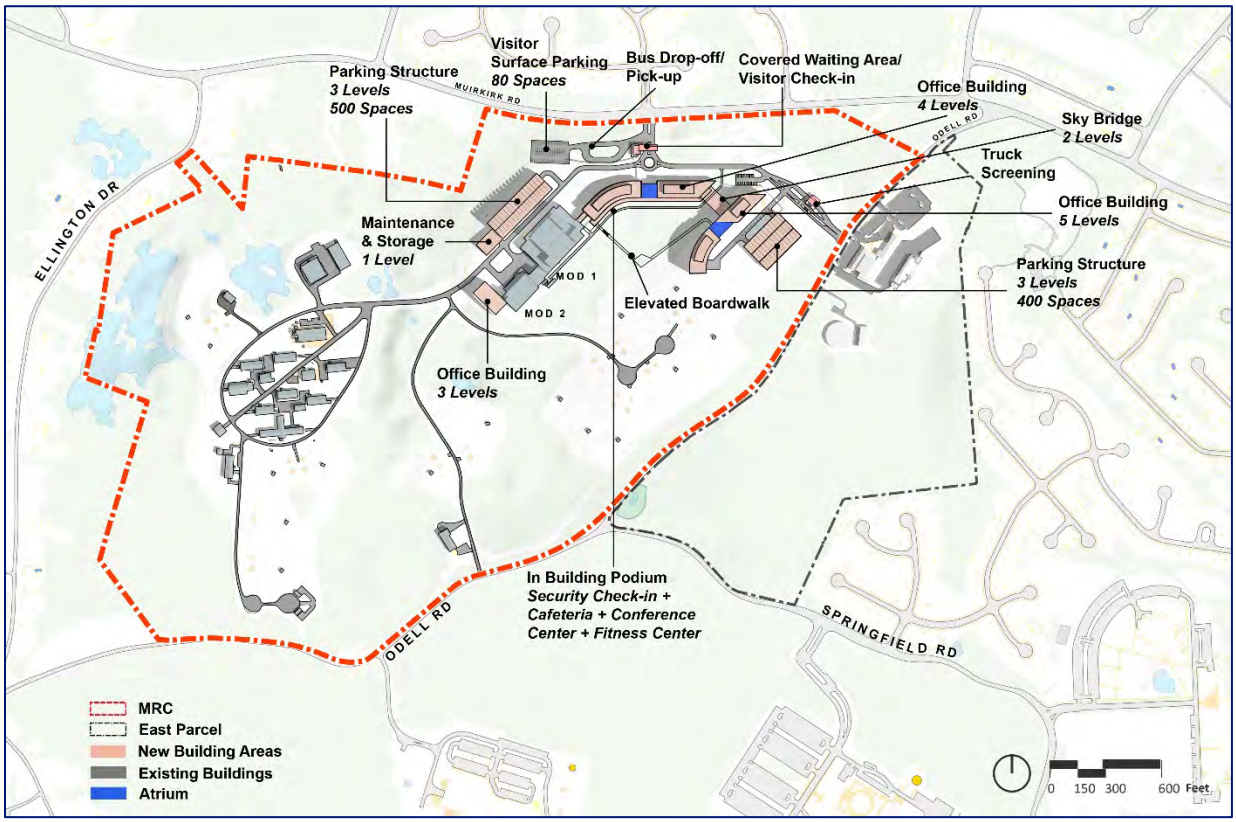


Figure 0-2. Alternative B - Dual Campus

Alternative C – Northeast Campus

Development under Alternative C would be distributed at the BRF. The new buildings would barely be visible from the main entrance at Muirkirk Road as most of the building volume would be screened by forested areas that form the perimeter landscape buffer. The forested stream valley at the center of the campus would be visible.

With Alternative C, the MOD 1 and MOD 2 buildings would remain. Alternative C includes two new connected office buildings that would be up to five stories tall at the BRF. Two new parking garages up to three stories tall would be constructed to the east of the new buildings at the BRF. The three-story parking garages would contain a total of 750 parking spaces and 230 surface parking spaces would also be provided. A portion of the existing surface parking lot adjacent to the MOD 1 and MOD 2 buildings would be returned to

ALTERNATIVE C SUMMARY

- 375,000 square feet of office space at two new connected buildings
- Office buildings up to 5-stories tall
- 63,000 sf of new special use spaces
- Two new 3-story parking garages with 750 spaces
- 230 surface parking spaces for employees and visitors
- Elevated boardwalk and skybridge

natural landscape. Of the 283 surface parking spaces located there, only 150 would remain. Eighty surface parking spaces would be provided adjacent to the repurposed BRF building. An elevated boardwalk would be constructed within the natural landscape amenity space west of the MOD 1 and MOD 2 buildings. A skybridge would connect the two new buildings. Alternative C would repurpose the existing BRF building for a security screening area.

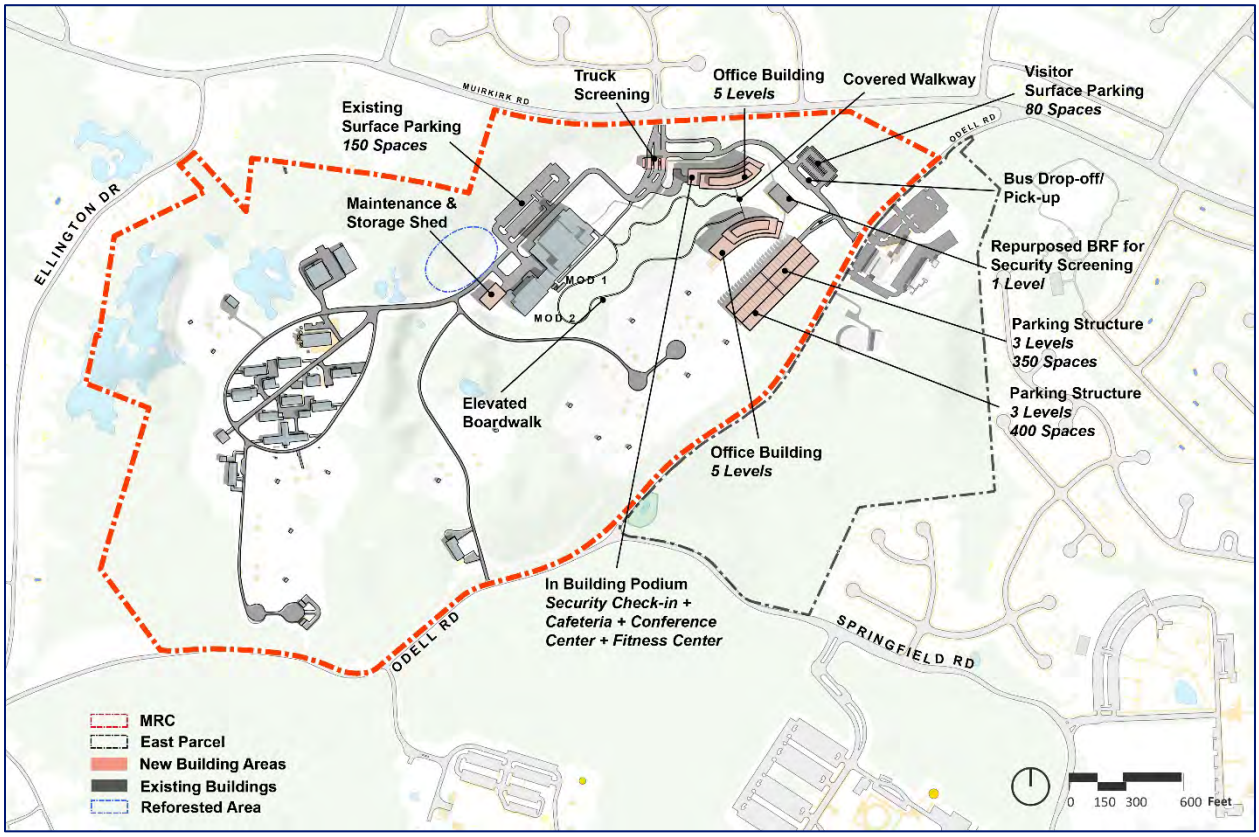


Figure 0-3. Alternative C - Northeast Campus

SUMMARY OF ENVIRONMENTAL IMPACTS

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

Table E-0-2. Comparison of Impacts

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Soils and Topography (Section 4.3)	• No site grading or construction • Negligible, short-term, adverse impacts from soils disturbance	• Moderate, long-term, adverse impacts to topography • Moderate long-term, adverse impacts to soils • Disturbance of 7.8 acres of soil by demolition • Excavation of 22.7 acres of soils. • Removal of 48,000 cubic yards of soil for below-grade construction • Total steep slopes impacted is 1.5 acres	• Moderate, long-term, adverse impacts to topography • Moderate long-term, adverse impacts to soils • Disturbance of 7.4 acres of soil by demolition • Excavation of 22.5 acres of soils. • Removal of 67,000 cubic yards of soil for below-grade construction • Total steep slopes impacted is 1.4 acres	• Moderate, long-term, adverse impacts to topography • Moderate long-term, adverse impacts to soils • Disturbance of 5.2 acres of soil by demolition • Excavation of 20.2 acres of soils. • Removal of 23,000 cubic yards of soil for below-grade construction • Total steep slopes impacted is 1.2 acres
Groundwater & Hydrology (Section 4.4)	• No increase in impervious surface • No additional impacts from groundwater intrusion	• Minor, short-term, adverse impact from the potential to intercept the groundwater table from construction of buildings • Minor, long-term, adverse impact from groundwater infiltration	• Minor, short-term, adverse impact from the potential to intercept the groundwater table from construction of buildings • Minor, long-term, adverse impact from groundwater infiltration	• Minor, short-term, adverse impact from the potential to intercept the groundwater table from construction of buildings • Minor, long-term, adverse impact from groundwater infiltration

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
		• Minor, long-term, adverse impact from increase in impervious surfaces • Increase in impervious surface by 9.7 acres • Net increase of 2.8 acres of impervious surfaces which creates a 1.4 % increase in impervious surfaces	• Minor, long-term, adverse impact from increase in impervious surfaces • Increase in impervious surface by 12 acres • Net increase of 5.6 acres of impervious surfaces which creates a 2.8 % increase in impervious surfaces	• Minor, long-term, adverse impact from increase in impervious surfaces • Increase in impervious surface by 9.5 acres • Net increase of 248 acres of impervious surfaces which creates a 2.4 % increase in impervious surfaces
Water Resources (Section 4.5)	• No impacts	• Moderate, short-term, adverse impacts to wetlands • Moderate, long-term, adverse impacts to water resources from elevated boardwalk • 0.17 acres wetlands, 0.07 acres of wetland buffers, and 246 linear feet of streams impacted during construction • 0.05 acres of permanent impacts to wetlands and wetland buffers, and 246 lf of permanent stream impacts	• Minor, short-term, adverse impacts to wetlands • Negligible, long-term, adverse impacts to water resources from elevated boardwalk • 0.06 acres wetlands and 0.07 acres of wetland buffers, impacted during construction • Permanent impacts to 0.03 acres of wetlands and 0.01 acres wetland buffers	• Moderate, short-term, adverse impacts to wetlands • Minor, long-term, adverse impacts to water resources from elevated boardwalk • 0.17 acres wetlands, 0.18 acres of wetland buffers, and 68 linear feet of streams impacted during construction • Permanent impacts to 0.05 acres of wetlands, 0.04 acres wetland buffers, 68 lf of streams
Stormwater (Section 4.6)	• Stormwater quantity provided by 4 stormwater detention ponds	• Addition of 9.7 acres of impervious surface	• Addition of 12.0 acres of impervious surface	• Addition of 9.5 acres of impervious surface

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
	• Drainage improvements would minimize stormwater runoff	• Removal of 6.9 acres of existing impervious surface • Net increase of 2.8 acres of impervious surface • 1.4 % increase in total impervious surface at the MRC • Minor, long-term, adverse impact from increase in impervious surface • Minor, long-term, adverse impacts to stormwater • Minor, short-term, adverse impacts from construction	• Removal of 6.4 acres of existing impervious surface • Net increase of 5.6 acres of impervious surface • 2.8 % increase in total impervious surface at the MRC • Minor, long-term, adverse impact from increase in impervious surface • Minor, long-term, adverse impacts to stormwater • Minor, short-term, adverse impacts from construction	• Removal of 4.7 acres of existing impervious surface • Net increase of 4.8 acres of impervious surface • 2.4 % increase in total impervious surface at the MRC • Minor, long-term, adverse impact from increase in impervious surface • Minor, long-term, adverse impacts to stormwater • Minor, short-term, adverse impacts from construction
Vegetation (Section 4.7)	• No impacts to vegetation	• Temporary impacts to 5.3 acres of lawn and 0.9 acres to primary management areas (PMA) • Permanent impacts to 3.5 acres of lawn, 4.8 acres of forest, and 0.2 acres of PMAs • Moderate, short-term, adverse impacts during construction • Minor, long-term, adverse impacts from the elevated boardwalk	• Temporary impacts to 4.9 acres of lawn and 0.3 acres to PMAs • Permanent impacts to 3.5 acres of lawn, 5.2 acres of forest, and less than 0.1 acres of PMAs • Moderate, short-term, adverse impacts during construction • Negligible, long-term, adverse impacts from the elevated boardwalk	• Temporary impacts to 4.4 acres of lawn and 0.6 acres to PMAs • Permanent impacts to 4.1 acres of lawn, 4.8 acres of forest, and 0.1 acres of PMAs • Moderate, short-term, adverse impacts during construction • Minor, long-term, adverse impacts from the elevated boardwalk

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
		• Minor, long-term, adverse impacts vegetation	• Minor, long-term, adverse impacts to vegetation	• Minor, long-term, adverse impacts to vegetation
Wildlife (Section 4.8)	• No impacts to wildlife or wildlife habitat	• Minor, short-term, adverse impacts to wildlife during construction • Minor, long-term, adverse impact to wildlife • Minor, short- and long-term, adverse impacts to migratory birds • Minor, short- and long-term, adverse impacts to aquatic wildlife • Minor, long-term, adverse impacts from loss of habitat		
Coastal Zone Management (Section 4.9)	• Consistent with Maryland's coastal zone management policies	• Negligible, long-term, adverse impact to the coastal zone • Consistent with Maryland's coastal zone management policies		
Cultural Resources (Section 4.10)	• No impacts to cultural resources			
Viewsheds (Section 4.11)	• No impacts to viewsheds	• New building north of MOD 1 would be visible from main entrance • Most building volume would be screened by forested areas • Minor, long-term, adverse impact to viewsheds	• New building north of MOD 1 would be visible from main entrance • Most building volume would be screened by forested areas • Minor, long-term, adverse impact to viewsheds	• No discernable changes to viewsheds • New buildings would be visible from main entrance • Building heights would be taller than existing BRF • Negligible, long-term, adverse impact to viewsheds
Land Use Planning & Zoning (Section 4.12)	• Negligible, long-term, adverse impact to Federal land use planning	• No impacts land use planning and zoning • Action Alternatives would be consistent with NCPC's *Comprehensive Plan for the National Capital* • Action Alternatives would support Prince George's County's Subregion 1 Master Plan		

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Community Facilities (Section 4.13)	• No impacts to community facilities	• Negligible, long-term, adverse impacts		
Safety and Security (Section 4.14)	• No impacts to safety and security of the MRC • No increases in demand in calls for police, fire, and EMS	• Negligible, long-term, adverse impacts from a non-discernable increase number of calls for police response that would not be discernable • Enhanced security measures would provide beneficial impacts to employees, support staff, and visitors		
Economy and Employment (Section 4.15)	• Minor, long-term, adverse impacts to the local or regional economy • Minor, long-term, adverse impacts to employment • No impacts to taxes and revenue	• Short- and long-term beneficial impacts to the regional economy • Short- and long-term beneficial impacts from an increase in employment and personal income • Short- and long-term beneficial impacts from an increase in taxes		
Environmental Justice (Section 4.16)	• No adverse impacts to environmental justice communities	• No disproportionate adverse impacts to low-income, minority, residents, elderly, or children		
Air Quality (Section 4.17)	• Moderate, long-term, adverse impacts from traffic • Conforms to the Washington Metropolitan Region SIP • Replacement of existing air handling units would	• Negligible, short- and long-term, adverse impacts to air quality • Negligible, short-term, adverse impacts to air quality from construction • Negligible, long-term, adverse impact from an increase in natural gas use • No exceedance of the 1-hour or 8-hour National Ambient Air Quality Standards for carbon monoxide • Minor, long-term, adverse impact from Mobile Air Source Toxic (MSAT) emissions due to USEPA regulations designed to reduce MSAT emissions • Minor, long-term, adverse impacts from an increase in stationary sources		

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
	beneficially impact air quality • Mobile source air emissions would remain at current levels			
Greenhouse Gas and Climate Change (Section 4.18)	• No new increases to greenhouse gas (GHG) emissions	• GHG emissions would result in negligible, short-term, adverse impacts • Minor, long-term, adverse impacts as a result of GHG emissions • Natural gas heating and small boilers/generators would contribute to climate change that would be slightly discernable		
Noise (Section 4.19)	• Negligible, long-term, adverse impact from an increase in noise levels that would not be discernable	• Minor, short-term, adverse impact during construction from an increase in noise levels • Negligible, long-term, adverse impacts from an increase in traffic and operation of facilities at the MRC		
Traffic and Transportation (Section 4.20)	• Minor, long-term, adverse impacts from traffic in the vicinity of the MRC • No impacts to the local transit network	• Moderate, long-term, adverse impacts after the implementation of Phase 1 of the Master Plan • Moderate, long-term, impact after implementation of Phase 2 Master Plan • Negligible, long-term, adverse impact to local transit • Beneficial impacts to pedestrian and bicyclists		
Utilities (Section 4.21)	• Beneficial impacts from the replacement of the substation, cooling towers, air handling units, generators, and the back-flow preventer at Muirkirk Road; and upgrade to the Building Automation System at MOD 2.	• Negligible, short-term, adverse impacts to utility services • Negligible, long-term, adverse impacts to water service • Negligible, long-term, adverse impacts to sewer service • Negligible, long-term, adverse impacts to electrical, natural gas, and telecom services		

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Environmental Contamination (Section 4.22)	• Beneficial impacts from the replacement of the substation, air handling units, and generators	• Minor, long-term, adverse impact for a slight detectable increase of environmental contaminants to landfills • Beneficial, long-term impacts from the removal of hazardous materials		
Waste Management (Secton 4.23)	• Minor, short-term, adverse impact from construction for new and ongoing projects at the MRC • Minor, long-term, adverse impact	• Minor, short-term, adverse impact from construction • Minor, long-term, adverse impact from an increase in waste generated at the MRC		

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

This page left intentionally blank.

ACRONYMS

Acronym	Full Name
µg/m^3	Micrograms per cubic meter of air
AADT	Annual Average Daily Traffic
AAI	All Appropriate Inquiries
AAWDT	Annual Average Weekday Traffic
Ac	Acre
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
AHU	Air Handling Unit
APE	Area of Potential Effect
AST	Above-ground Storage Tank
BARC	Beltsville Agricultural Research Center
BEP	Bureau of Engraving and Printing
BER	Business Environmental Risks
BG	Block Group
BMP	Best Management Practice
BRF	Beltsville Research Facility
CAA	Clean Air Act
CAC	Critical Area Commission
CcC	Christiana-Downer complex
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations

Acronym	Full Name
CFSAN	Center for Food Safety and Applied Nutrition
CMP	Corrugated Metal Pipe
CO	Carbon Monoxide
COMAR	Code of Maryland Regulation
CT	Census Tract
CVM	Center for Veterinary Medicine
CWA	Clean Water Act
cy	Cubic yard
CZMA	Coastal Zone Management Act
dB	Decibel
dB(A)	A-weighted Decibel
DIP	Ductile Iron Pipe
DoC	Downer- Hamonton Complex
DOT	Department of Transportation
DPIE	Department of Permitting, Inspections and Enforcement
DPW	Department of Public Works
EDR	Environmental Data Resources
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EJ IWG	Environmental Justice Interagency Working Group
EJSCREEN	Environmental Justice Screening and Mapping Tool
EMS	Emergency Medical Services
EO	Executive Order
ESA	Environmental Site Assessment

Acronym	Full Name
ESC	Erosion and Sediment Control
ESD	Environmental Site Design
EwB	Evesboro-Downer complex, 0 to 5 percent slopes
EwC	Evesboro-Downer complex, 5 to 10 percent slopes
EwD	Evesboro-Downer complex, 10 to 15 percent slopes
EwE	Evesboro-Downer complex, 15 – 25 percent slopes
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPS	Federal Protective Service
FRC	Federal Research Center
FY	Fiscal Year
GbD	Galestown-Urban Land complex, 5 to 15 percent slopes
GbG	Galestown-Urban Land complex, 0 to 5 percent slopes
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GSA	U.S. General Services Administration
gsf	Gross square feet
HDPE	High-Density Polyethylene
HREC	Historical Recognized Environmental Concerns
HVAC	Heating, Ventilation, Air Conditioning
ICC	Intercounty Connector
IPaC	Information for Planning and Consultation

Acronym	Full Name
ISC	Interagency Security Committee
ITE	Institute of Transportation Engineers
I-TMS	Internet Traffic Monitoring System
Kv	Kilovolt
kW	Kilowatt
LBP	Lead-based Paint
LEED®	Leadership in Energy and Environmental Design
lf	Linear feet
LID	Low Impact Development
LOF	Letter of Findings
LOS	Level of Service
LUFS	Land Use Feasibility Study
MAGLEV	Magnetic Levitation Train
MARC	Maryland Area Regional Commuter
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MDOT	Maryland Department of Transportation
MDOT SHA	Maryland Department of Transportation State Highway Administration
MDSPGP-5	Maryland State Programmatic General Permit – 5
MGS	Maryland Geological Survey
MHT	Maryland Historical Trust
MMT	Million Metric Tons
M-NCPPC	Maryland-National Capital Park and Planning

Acronym	Full Name
MOD 1	Module 1
MOD 2	Module 2
MRC	Muirkirk Road Campus
MSAT	Mobile Source Air Toxic
msl	Mean Sea Level
MS4	Municipal Separate Storm Sewer System
MTA	Maryland Transit Administration
MWCOG	Metropolitan Washington Council of Governments
NAC	Noise Abatement Criteria
NAAQS	National Ambient Air Quality Standards
NCPC	National Capital Planning Commission
NCR	National Capital Region
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
OCP	Oil Control Program
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
Pb	Lead
PBS	Public Buildings Service

Acronym	Full Name
PCB	Polychlorinated Biphenyls
PEM	Palustrine Emergent
PEPCO	Potomac Electric Power Company
PFO	Palustrine Forested
PGCPS	Prince George's County Public Schools
$PM_{2.5}$	Particulate Matter – particles in diameter less than 2.5 micrometers
PM_{10}	Particulate Matter – particles in diameter less than 10 micrometers
PMA	Primary Management Area
POR	Program of Requirements
POW	Palustrine Open Water
ppb	parts per billion
ppm	parts per million
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Concern
RMP	Risk Management Plan
ROD	Record of Decision
ROS	Reserved Open Space
RTA	Regional Transportation Agency of Central Maryland
RuB	Russett-Christiana-Urban Land complex, 0 to 5 percent slopes
sf	square feet
SHPO	State Historic Preservation Office
SIP	State Implementation Plan

Acronym	Full Name
SITES™	Sustainable Sites Initiative™
SO_2	Sulfur Dioxide
SOD	Sassafras and Croom soils, 10 to 15 percent slopes
SOV	Single Occupancy Vehicle
SPAL	Special Pharmacological Animal Lab
SPF	System Planning Forecast
STP	Shovel Test Pit
SVB	Stream Valley Buffer
SWM	Stormwater Management
TDM	Transportation Demand Management
TIS	Traffic Impact Study
TMP	Transportation Management Plan
TMDL	Total Maximum Daily Load
tpy	tons per year
UdgB	Udorthents, reclaimed gravel pits, 0 to 5 percent slopes
UdgD	Udorthents, reclaimed gravel pits, 5 to 15 percent slopes
UruB	Urban land-Udorthents complex, 0 to 5 percent slopes
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tanks

Acronym	Full Name
v/c	volume to capacity
WCO	Wildlife Conservation Ordinance
WET	Wetland
WMATA	Washington Metropolitan Area Transportation Authority
WSSC	Washington Suburban Sanitary Commission
WUS	Waters of the U.S.

This page left intentionally blank.

1 INTRODUCTION

RESOURCE TOPICS

Natural Resources
- Soils*
- Topography*
- Geology
- Coastal Zone Management*
- Water Resources – Groundwater, Surface Waters*, Wetlands*, & Floodplains
- Stormwater*
- Vegetation*
- Wildlife*
- Protected Species

Social Resources
- Land Use Planning*
- Zoning*
- Population and Housing
- Community Services and Facilities*
- Environmental Justice*
- Economy and Employment*
- Safety and Security*

Cultural Resources
- Historic Structures *
- Archaeological Resources*

Viewsheds*
Air Quality*
Noise*
Greenhouse Gases and Climate Change*
Environmental Contamination*
Traffic and Transportation*
Utilities*
Waste Management*

**topics carried through for analysis*

This Draft Environmental Impact Statement (EIS) has been prepared by the U.S. General Services Administration (GSA), on behalf of the U.S. Food and Drug Administration (FDA), to assess and report potential impacts that would result from the implementation of the FDA Muirkirk Road Campus (MRC) Master Plan for the continued consolidation of FDA's facilities in Prince George's County, Maryland in the city of Laurel.

The National Environmental Policy Act (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 relations of people to that environment" (Section 1.4.1, *PBS NEPA Desk Guide*, 1999). GSA has prepared this Draft EIS to explain to the public the impacts on the environment, including natural resources, social resources, and cultural resources that are likely to occur during implementation of the MRC Master Plan. The resources considered in this Draft EIS are listed on this page.

GSA is using this EIS to provide information on cultural resources affected by the proposed Master Plan as required by Section 106 of the National Historic Preservation Act (NHPA). The evaluation includes cultural resources outside of the MRC that could be affected by views of the new buildings, noise, or traffic. More information on other laws and regulations with which GSA must comply is provided in Section 2.8, Relevant Laws and Regulations.

The public is encouraged to review this document and attend the virtual public hearing to learn more about the MRC Master Plan and its potential impacts. The public is also encouraged to provide comments on the Draft EIS and the Master Plan.

MRC Master Plan EIS Virtual Public Hearing:
Wednesday, June 23, 2021 at 7 pm

There are three ways to access to the Virtual Public Hearing:

- The registration link is https://attendee.gotowebinar.com/register/8253836292734173711

  - Requires first and last name and email address.
- Day-of Virual Public Hearing log in: https://www.gotomeeting.com/webinar/join-webinar | Webinar ID: 417-735-899
  - Requires an email address to join.
- Phone (audio only): +1 (415) 655-0052 | Attendee Audio Access Code: 802-683-636

Written comments on the Draft EIS may be sent to:
Mr. Marshall Popkin
U.S. General Services Administration
National Capital Region
1800 F Street, NW Room 4400
Washington, DC 20407
Marshall.Popkin@gsa.gov

Written comments on the Draft EIS must be postmarked by **July 19, 2021**.

2 PURPOSE OF AND NEED FOR THE MASTER PLAN

2.1 WHAT IS THE PURPOSE OF AND THE NEED FOR A NEW MRC MASTER PLAN?

The purpose of the proposed Master Plan is to provide FDA with a structured framework for developing the MRC over the next 20 years in a manner that maximizes the site's development potential and accommodates all relevant physical, cultural, environmental, historic, transportation, and regulatory considerations in a cost-effective way. There are currently 300 FDA employees and support staff at the MRC. The Master Plan is being prepared to guide the development to accommodate a total of 1,800 employees. The projected growth for FDA is an additional 700 employees to the MRC over the next 5 to 6 years, and an additional 800 employees during future development phases over the next 20 years. The growth includes funded staff vacancies, existing employees currently in other leased spaces in suburban Maryland outside the MRC, FDA support staff, and future expansion.

A Master Plan is needed to accommodate projected growth and to continue to support FDA's consolidation in order to conduct complex and comprehensive research and reviews. The MRC Master Plan will steer the planning, design, and construction of new buildings; improvements to roadways, utilities, and other infrastructure; and the protection of natural areas. Approximately 438,000 gross square feet (gsf), including 375,000 gsf of additional office space and up to 63,000 gsf of special use/shared space is needed to support FDA's mission at the MRC.

2.2 WHAT IS GSA'S ROLE IN THE MRC MASTER PLAN DEVELOPMENT?

GSA, in its mission to "deliver value and savings in real estate, acquisition, technology, and other mission-support services across Government," assists Federal agencies in building and acquiring office space, products, and other workspace services (GSA, 2021). GSA is responsible for preparing the MRC Master Plan and is the lead Federal agency in the preparation of this EIS. To support these efforts, GSA is providing project management; architectural, engineering, and environmental expertise; and contracting services.

2.3 WHAT ROLE DOES FDA PLAY IN THE MRC MASTER PLAN DEVELOPMENT?

FDA owns and manages the MRC and is responsible for development and maintenance of the property. FDA will be responsible for implementation of the MRC Master Plan and therefore will work closely with GSA to ensure that the FDA's vision for the property, as well as its existing and future needs, is addressed. As the property owner, FDA is a cooperating agency for the preparation of this EIS. A cooperating agency is a Federal agency other than the lead agency (i.e., GSA) which has jurisdiction by law or special expertise with respect to any environmental impact. FDA is also responsible for implementing the MRC Transportation Management Plan (TMP) and ensuring transportation management strategies outlined in the TMP are carried out.

2.4 WHAT ROLE DOES THE NATIONAL CAPITAL PLANNING COMMISSION PLAY IN THE MRC MASTER PLAN DEVELOPMENT?

The Master Plan and EIS are subject to review by the National Capital Planning Commission (NCPC) to ensure the plan is consistent with the Federal Elements of the NCPC *Comprehensive Plan for the National Capital.* GSA and FDA will be submitting the Draft Master Plan and Draft EIS to NCPC in June 2021 for NCPC review and for the Commission to provide recommendations on the draft Master Plan. A TMP has also been prepared for NCPC review. NCPC has advisory review authority over master plans for use by the Commission as a guide for future reviews of individual site and building projects pursuant to the National Capital Planning Act 40 U.S.C. 8722(a) and (b)(1) and (d).

2.5 WHERE IS THE MRC LOCATED?

The MRC is in the City of Laurel in Prince George's County, Maryland between Washington, DC and Baltimore, MD (**Figure 2-1**). The main entrance to the MRC is at 8301 Muirkirk Road. The campus lies two miles east of the terminus of Maryland Route 200, 1.5 miles northwest of the Powder Mill Road/Baltimore-Washington Parkway interchange, and 11 driving miles from FDA's headquarters campus at the Federal Research Center (FRC). The MRC consists of 197 acres and is bounded to the north by Muirkirk Road and residential properties; to the east by Odell Road and the East Parcel; to the south by Odell Road, the Beltsville Information Management Center, and the Special Collection Service; and to the west by Ellington Drive **(Figure 2-2**). The southern portion of the campus is dedicated to animal research and home to the Animal Research Facility operated by the Center for Veterinary Medicine (CVM), which occupies 113 acres. The southern portion also includes four pastures, referred to as Pasture A-D, which taken together cover about 32 acres. The total land area of the southern section is roughly 145 acres (**Table 2-1**). The existing FDA offices and laboratories are concentrated on the northern portion of the campus, which in total covers approximately 52 acres. To determine the environmental impact of future development, a 76-acre study area was determined (**Figure 2-3**).

Table 2-1. Existing MRC Acreage

West Parcel	Acres
Existing FDA Office & Laboratories	52
Pastures (A through D)	32
Animal Research Facility	113
Total Acreage of MRC	**197**

The East Parcel has been divided into three smaller parcels. One parcel is occupied by the Maryland Army National Guard and another by the South Laurel Pumping Station. The third parcel is undeveloped forested land. The Maryland Army National Guard occupies approximately 23 acres. About 10 acres of the 23 acres have been built on. The South Laurel Pumping Station occupies approximately 4 acres. The remaining area of approximately 25 acres has not been built. For the purposes of this EIS, the woodlands immediately east of Odell Road are referred to as the undeveloped area of the East Parcel. See **Figure 2-2** for the area boundary of the East Parcel.

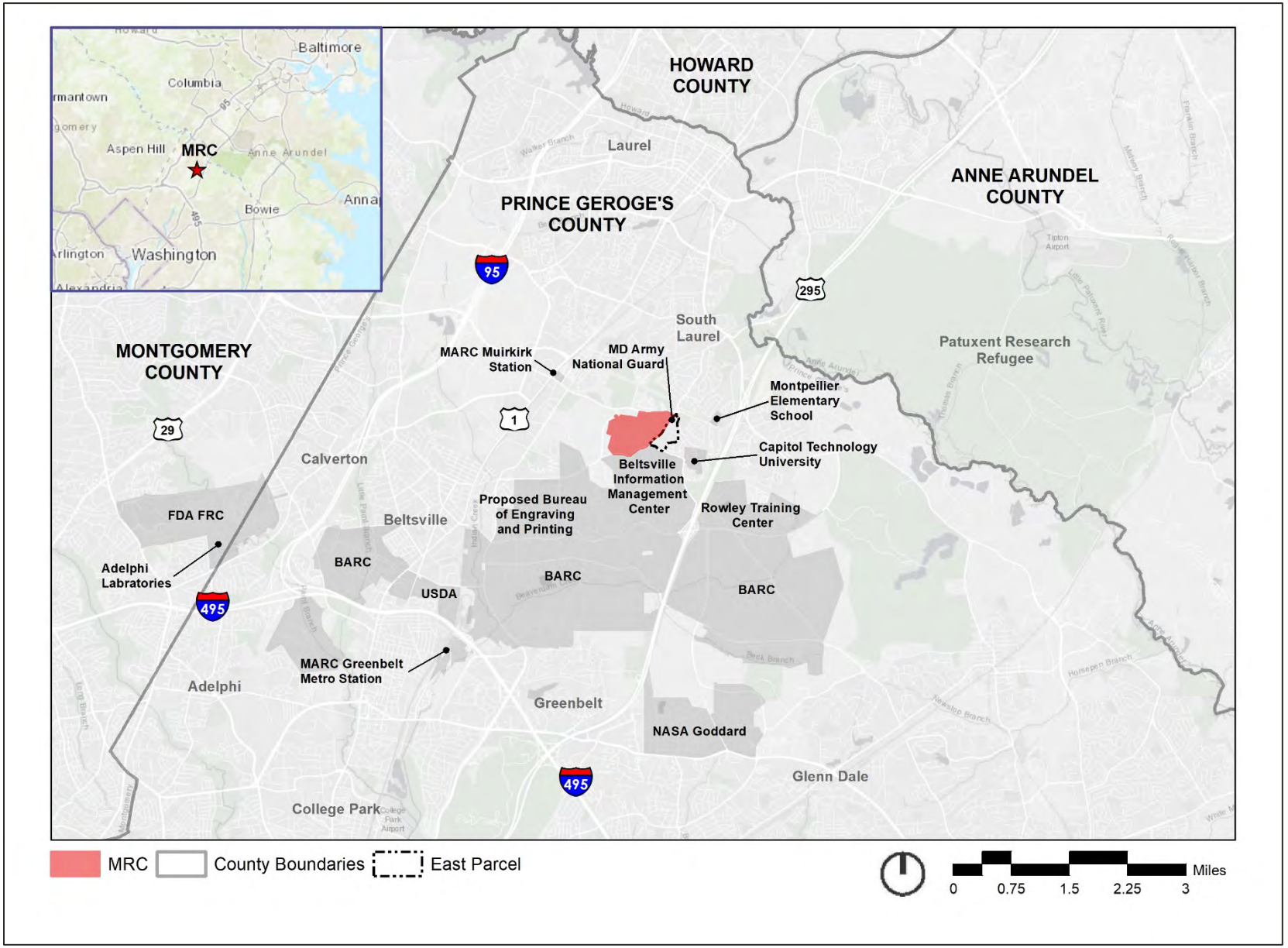


Figure 2-1. Regional Location

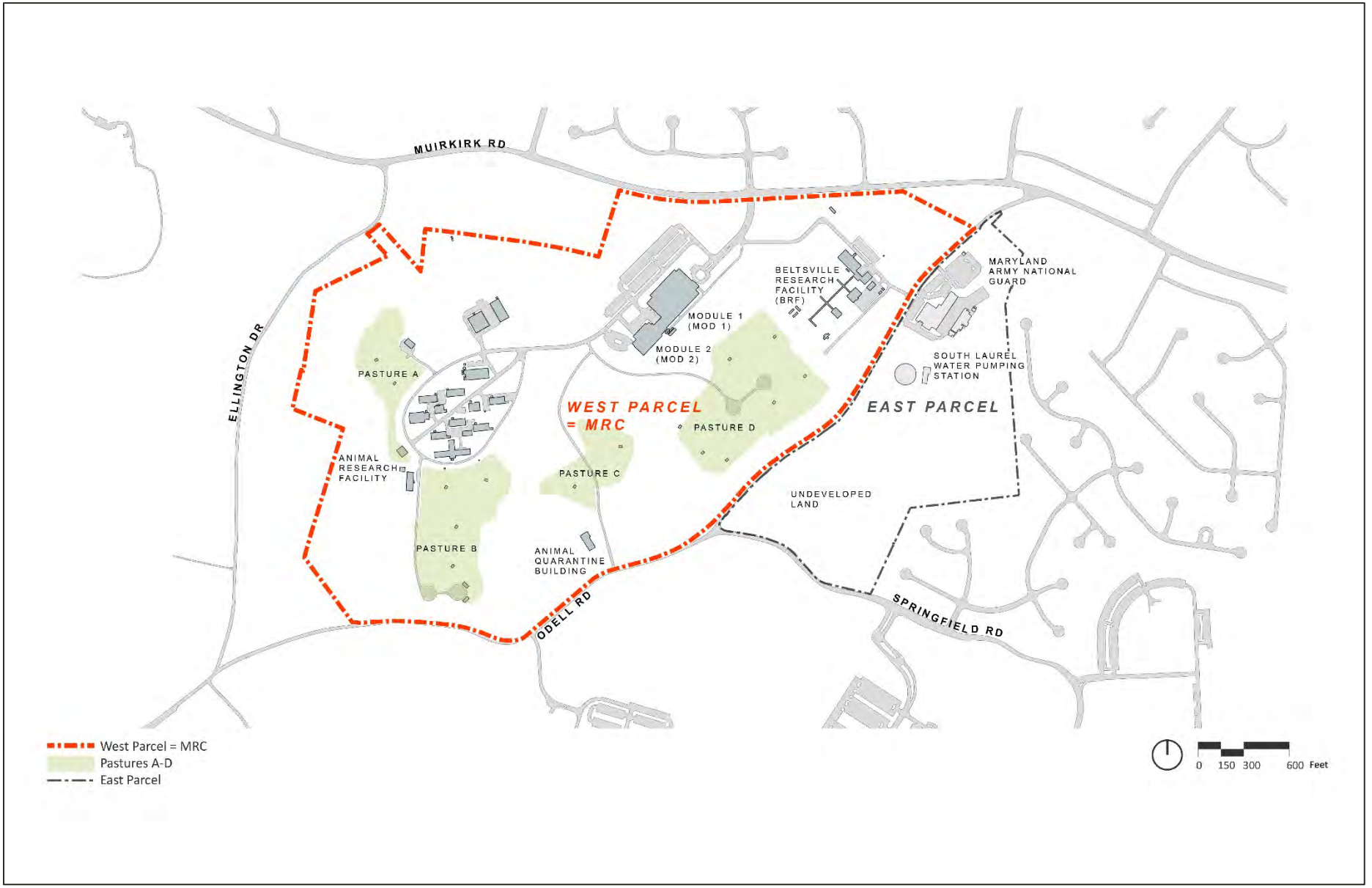


Figure 2-2. FDA Area Boundaries

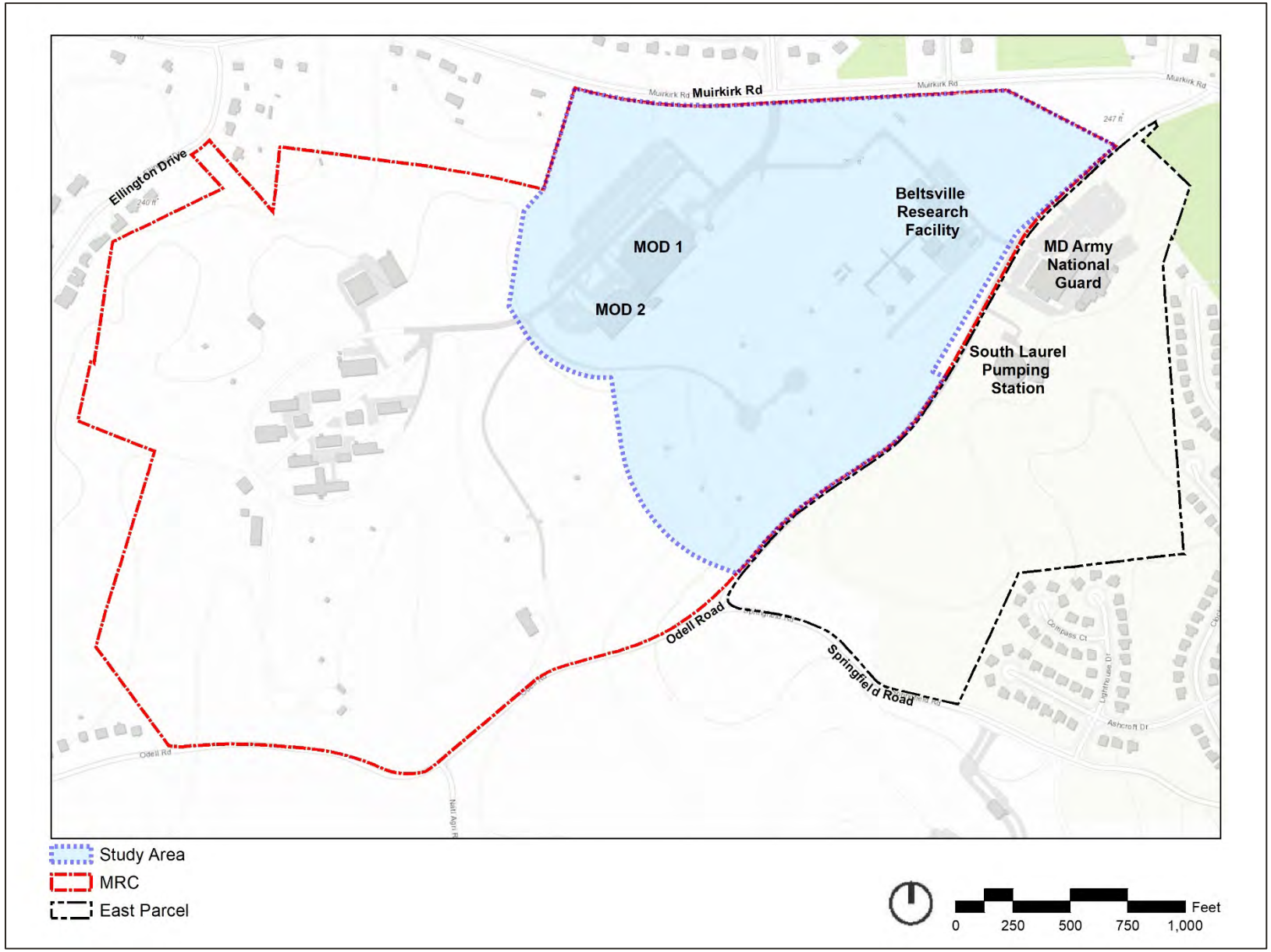


Figure 2-3. MRC Master Plan EIS Study Area

2.6 WHAT IS THE BACKGROUND OF THE MRC MASTER PLAN?

In 1964, FDA acquired 197 acres on the northern boundary of the Beltsville Agricultural Research Center (BARC) through a transfer of land from the U.S. Department of Agriculture (USDA). FDA prepared a Site Development Plan to establish the MRC on the property, which was approved by NCPC on July 21, 1966 (FDA, 1966). The 1966 plan called for the construction of laboratories, kennels, and a research farm with 700,000 gsf of building space; 1,060 to 1,260 parking spaces; and 1,480 to 1,800 employees (**Figure 2-4**). Due to funding issues, only a small portion of those laboratories were built. These included the Beltsville Research Facility (BRF) Special Pharmacological Animal Laboratory (SPAL) Complex, BRF Service Building, kennels, and several ancillary utility buildings were constructed west of Odell Road. The kennels were removed from the BRF in the early 2000s. Between 1972 and 1973, FDA began a site selection process for its headquarters laboratories, looking at 26 potential locations within a 50-mile radius of Washington, DC (FDA, 1981). In 1973, four of these sites: the MRC; and land in Columbia, Maryland; SE Washington, DC; and Reston, Virginia, were evaluated in some detail (FDA, 1973). Following the issuance of the final Council on Environmental Quality (CEQ) regulations in 1978, each of these sites was reevaluated in 1979 based upon then-current site selection practices, which analyzed land use, natural ecology; water and air quality; noise, social, economic, and transportation impacts; and aesthetics (FDA, 1981). In 1981, FDA proposed a phased development program for new facilities (**Figure 2-5**). When complete, the proposed phased development would have consolidated existing FDA activities at four facilities in the Washington, DC, metro area and other sites in St. Louis, Missouri, and Cincinnati, Ohio.

As a result of this proposal, FDA prepared an EIS in 1981 that analyzed the impacts from construction of new office space at the four different locations within the DC metropolitan area (FDA, 1981)[1]. Upon completion of the 1981 EIS, the MOD 1 and MOD 2 buildings were constructed in phases from 1983 to 1996 on the northwestern portion of the MRC. The Animal Research Facility was constructed on the southwest portion of the MRC in the late 1990s.

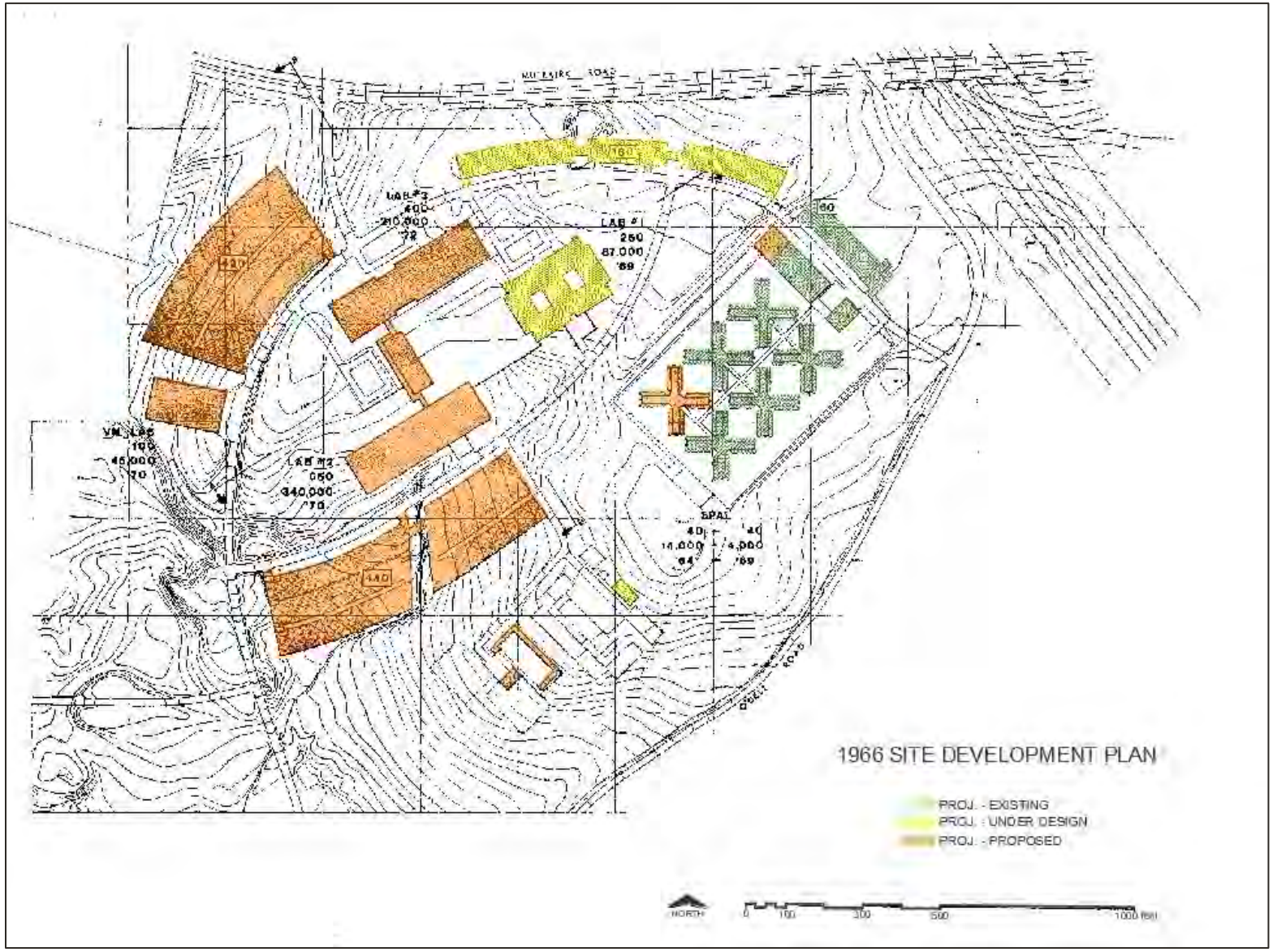
The MRC currently houses employees for the CVM and the Center for Food Safety and Applied Nutrition (CFSAN) and support staff. The main portions of the MRC west of Odell Road contain 29 buildings of 480,000 gsf that accommodate office space, laboratories, animal research, and support facilities. The site has surface parking, internal service roads, pastures, stormwater management (SWM) ponds, tree conservation areas, and wetland preserves.

Currently, there are 300 employees on the MRC, although the campus is approved for 1,800 employees. This population size was established in the 1966 Site Development Plan that was approved by Prince George's County and NCPC in July 1966 and was maintained in the 1981 development plan for construction of new laboratory space on the campus.

2.7 WHAT ARE THE GOALS FOR THE MRC MASTER PLAN?

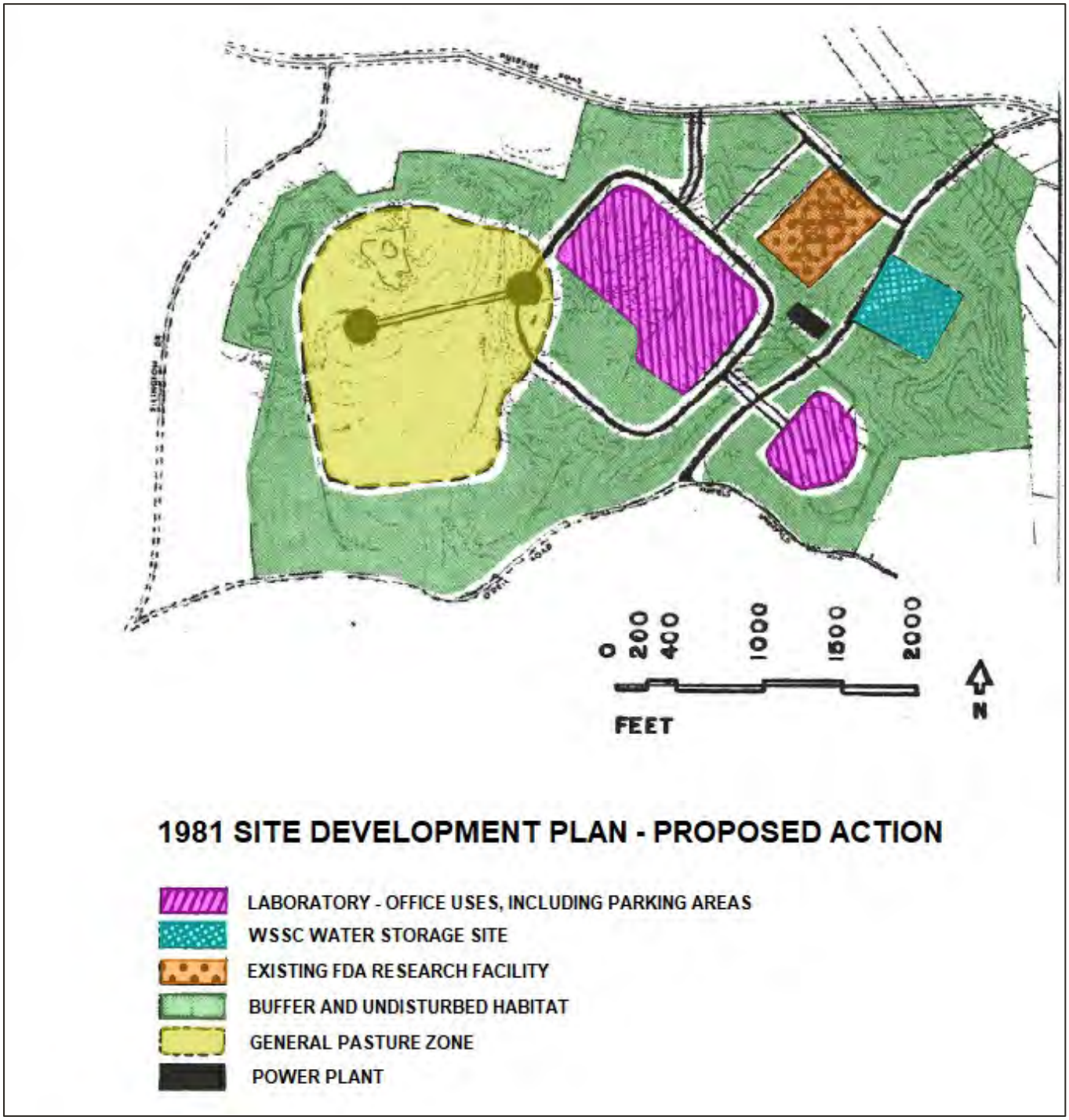
GSA and FDA established goals to guide the development of the MRC Master Plan. As shown below, goals were defined for image and mission, economics, environmental stewardship, and transportation.

[1] The National Environmental Policy Act was signed into law on January 1, 1970. Because the original MRC Site Development Plan was completed before NEPA was enacted, an EIS was not prepared. The Site Development Plan did include consideration of environmental conditions on the site.



Source: FDA, 1966

Figure 2-4. 1966 MRC Site Development Plan



Source: FDA, 1981

Figure 2-5. 1981 Site Development Plan

MRC Master Plan Goals

Image and Mission – Reinforce FDA's image as a leading scientific institution and foster employee attraction and retention:

- Create a collegial environment to foster scientific interaction
- Provide a flexibility plan(s) which allows for a mixture of functions and operations; adapts to the sometimes unpredictable and everchanging nature and complexity of the products that the FDA regulates,
- Create an image of FDA as a leading scientific institution for employee attraction and retention
- Be an environmental steward, preserve open space, and enhance the site's natural features
- Embody the highest principles of sustainable design

Economics – Create a more efficient and cost-effective agency:

- Reduce dependency on leased facilities
- Maximize onsite population to streamline operations
- Utilize shared facilities
- Reduce travel times to and from meetings and conferences

Environmental Stewardship - Protect the site's tree canopy, maintain biodiversity, minimize runoff, and create a sustainable complex:

- Minimize land coverage with manmade development
- Convert surface parking lots into building pad sites
- Create both zero net energy and zero net water facilities
- Utilize innovative stormwater practices

Transportation – Foster effective transportation solutions to minimize traffic and parking and reinforce innovative existing policies:

- Welcome Metro Bus and Prince George's County TheBus onsite
- Create an onsite transit hub
- Phase future parking based on the impact of autonomous vehicles

2.8 RELEVANT LAWS AND REGULATIONS

2.8.1 What is NEPA and the NEPA Process?

NEPA is the nation's legislative charter for protection of the environment. NEPA requires Federal agencies to consider environmental impacts of their projects during Federal agency planning and decision-making. NEPA requires Federal agencies to prepare an EIS for actions that may significantly affect the quality of the human environment, such as the MRC Master Plan.

NEPA PUBLIC INVOLVEMENT

Scoping
January 4 – February 11, 2021

Publication of the Draft EIS
June 4, 2021

Public Review of Draft EIS
June 4 – July 19, 2021

Virtual Public Hearing
June 23, 2021

NCPC Draft Master Plan/EIS Public Hearing
September 2, 2021 (planned)

Final EIS and Public Comment Period
Mid-2022 (tentative)

Record of Decision
Mid to Late 2022 (tentative)

Public involvement is an important part of the NEPA process. By involving citizens, stakeholder groups, and local, state, and Federal agencies, the Federal government can make better informed decisions.

GSA issued a Notice of Intent (NOI) to prepare an EIS for the proposed MRC Master Plan on December 22, 2020. The NOI was published in the Federal Register, the *Washington Post*, and the *Prince George's Post*. NOI letters were mailed to 125 Federal, state, and local agencies; public officials; community groups; special interest groups; and area residents. The letters included information on public scoping and asked for the public's comments.

Through the NEPA process, the public has had, and will continue to have, opportunities to comment on the MRC Master Plan. "Scoping" is a tool for identifying the issues that should be addressed in the EIS and environmental compliance processes. Scoping allows the public to help define priorities and express stakeholder and community issues to the agency through oral and written comments. A critical element of the scoping process is the comments and concerns that are received from the public, agencies, and stakeholders. The public scoping period occurred from January 4 to February 11, 2021. Due to the COVID-19 pandemic, in lieu of an in-person public scoping meeting, GSA and FDA conducted scoping virtually. A prerecorded virtual public scoping presentation was available on GSA's website throughout the duration of the public scoping period. A project phone line was also available for the duration of the public scoping period so that persons unable to view the presentation online could listen to the presentation over the phone and leave comments via voicemail.

GSA and FDA also consulted with Federal, state, and local agencies. GSA and FDA held informational briefings for NCPC and Prince George's County staff and presented preliminary alternatives that formed the basis of the Action Alternatives evaluated in this Draft EIS. On February 4, 2021, GSA provided an information presentation to the Commission. Additional consultation was conducted with:

- U.S. Fish and Wildlife Service (USFWS)
- Maryland Department of Natural Resources (MDNR)
- Maryland Department of the Environment (MDE)
- Maryland Department of Transportation (MDOT)
- Maryland Department of Transportation – State Highway Administration (MDOT SHA)
- Maryland-National Capital Park and Planning Commission (M-NCPPC) – Prince George's County
- Prince George's County Department of Public Works (DPW) and Transportation
- Prince George's County Department of Permitting, Inspections and Enforcement (DPIE)
- Prince George's County Department of Economic Corporation
- Prince George's County Department of General Services
- Washington Metropolitan Area Transportation Authority (WMATA)

- Maryland Historical Trust (MHT) – Maryland State Historic Preservation Office (MD SHPO)
- Major Property Owners, including Neighborhood and Homeowners Associations

Key issues identified during scoping included:

- Adverse impacts to minority communities
- Impact of more traffic on already congested roadways
- Development on the undeveloped East Parcel affecting property values
- Effects to viewsheds from residential communities
- Preservation of trees and other natural features
- Lack of stormwater management features
- Use of sustainable design features (green roofs, solar panels, permeable pavement)
- Adverse noise impacts from construction and operation of new facilities

GSA and FDA have considered impacts to resources based on these and other issues in this Draft EIS and are now asking for the public, agencies, and other interested parties to comment on the analysis of impacts discussed in Chapter 4 – Affected Environment and Impacts to the Human Environment. Under NEPA, individuals and agencies have 45 days to review the Draft EIS. A virtual public hearing will be held on June 23, 2021 at 7pm to allow the public to learn more about the MRC Master Plan and its potential impacts, and to document the public's comments and concerns about the content of the Draft EIS. Comments received on the Draft EIS will be addressed, and a Final EIS will be issued. There will be a 30-day public review period of the Final EIS, giving the public an additional opportunity to provide input.

Finally, FDA will decide whether to adopt the proposed MRC Master Plan to accommodate 1,800 employees and support staff. Comments received on the Draft and Final EIS will help inform FDA's decision. The decision will be documented in a Record of Decision (ROD) that will outline the selected alternative and describe measures the Government will take to reduce impacts from construction and operation at the MRC if FDA decides to adopt the Master Plan.

2.8.2 What is Section 106 of the NHPA?

Section 106 of the NHPA of 1966 requires that Federal agencies consider the effects of their actions on cultural resources. Under the NHPA, GSA and FDA must evaluate impacts to any district, site, building, structure, or object listed in or eligible for listing in the National Register of Historic Places (NRHP). Chapter 4.10 describes the impacts the proposed MRC Master Plan would have on cultural resources.

The National Register of Historic Places is the nation's official list of cultural resources worthy of preservation. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture.

The Section 106 review process encourages historic preservation; however, there are times when impacts to cultural resources cannot be avoided. When the Government must impact cultural resources, it is required to consult with local citizens, groups with an interest in historic preservation, and local and Federal agencies responsible for historic preservation. For the proposed

MRC Master Plan, GSA and FDA are required to conduct consultations with MHT, the designated MD SHPO, and other interested parties.

GSA and FDA are integrating the NEPA and Section 106 reviews per 36 Code of Federal Regulations (CFR) 800.8(a)(1). GSA initiated Section 106 consultation with MHT on November 25, 2020. Throughout the project planning for the MRC Master Plan, GSA and FDA have been seeking input on potential effects to cultural resources and ways to avoid and minimize these effects. GSA and FDA have asked for input on historic preservation issues from the following Consulting Parties:

- MHT
- NCPC
- Advisory Council on Historic Preservation (ACHP)
- Maryland Commission on Indian Affairs
- Prince George's County Planning Department – Historic Preservation Office
- Maryland Army-National Guard
- South Laurel Water Pumping Station
- Prince George's County Council – District 1
- Rossville Community
- Laurel Historical Society
- Prince George's County Historical Society
- Montpelier Community Association
- Woodbridge Crossing Homeowners Association

A virtual Consulting Party meeting was held on March 24, 2021, which provided an overview of this MRC Master Plan to the Consulting Parties. This meeting also reviewed the background of planning at the MRC, identified the Area of Potential Effect (APE), reviewed the current Master Plan Alternatives, and outlined the next steps in the NHPA compliance process. Twenty-nine Consulting Parties attended this meeting.

A second Consulting Party meeting was held on April 28, 2021. During this meeting, GSA and FDA presented updated information on the Master Plan Alternatives, discussed potential effects to historic resources, and outlined the next steps in the NHPA compliance process. Twenty-seven Consulting Parties attended this meeting.

An opportunity for the public to comment on historic preservation issues was also provided during scoping. The public can also comment on historic preservation issues during the public review period of this Draft EIS.

2.8.3 What Other Environmental Laws and Regulations are Relevant to this Project?

GSA and FDA must also comply with many statutes, regulations, plans, and Executive Orders (EO) when developing the MRC. GSA and FDA are incorporating compliance with these laws and regulations into their project planning and NEPA compliance.

STATUES, REGULATIONS, PLANS, AND EXECUTIVE ORDERS

Statutes

- *Clean Air Act (CAA) of 1970 as amended (42 United States Code [U.S.C.] § 7401, et seq.)*
- *Clean Water Act (CWA) of 1977 as amended (33 U.S.C. § 1251, et seq.)*
- *Coastal Zone Management Act (CZMA) of 1972 (6 U.S.C. §§ 1451–1464)*
- *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. § 9601, et seq.)*
- *Archaeological Resources Protection Act of 1979 (16 U.S.C. §470aa-mm)*
- *Endangered Species Act of 1973 (16 U.S.C. §1531-1544)*
- *Section 5 of the National Capital Planning Act of 1952 (82 P.L. 592; 66 Stat. 781, et seq.); (codified as amended at 40 U.S.C. §8722(b)(1))*
- *Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. § 6901, et seq.)*
- *National Energy Conservation Policy Act (42 U.S.C. §8231, et seq.)*
- *Energy Independence and Security Act (EISA) (42 U.S.C. §17001, et seq.)*
- *National Historic Preservation Act of 1966 (16 U.S.C. § 470, et seq.) (89 P.L. 665 (1966)); (referred to herein as "Section 106")*

Regulations

- *Council on Environmental Quality Regulations (40 CFR Part 1500-1508)*
- *Protection of Historic Properties (36 CFR Part 800)*
- *Protection of Archaeological Resources: Uniform Regulations (32 CFR Part 229)*
- *Conformity of General Federal Actions to State or Federal Implementation Plans (40 CFR 6, 51, and 93)*
- *U.S. Army Corps of Engineers Regulations (33 CFR 320-332)*
- *Hazardous Substance Regulations (40 CFR Parts 300-399)*
- *Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation (48 Federal Register 44716)*

Executive Orders

- *EO 14008, Tackling the Climate Crisis at Home and Abroad (January 27, 2021)*
- *EO 13990, Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis (January 20, 2021)*
- *EO 13855, Promoting Active Management of America's Forests, Rangelands, and other Federal Lands to Improve Conditions and Reduce Wildfire Risk (December 21, 2018)*
- *EO 13604, Improving Performance of Federal Permitting and Review of Infrastructure Projects (March 22, 2012)*
- *EO 13274, Environmental Stewardship and Transportation Infrastructure Project Reviews (September 18, 2002), amended by EO 13286 (February 28, 2003)*
- *EO 13212, Actions To Expedite Energy-Related Projects (May 18, 2001), amended by EO 13286 (February 28, 2003) and EO 13302 (May 15, 2003)*
- *EO 13186, Responsibilities of Federal Agencies To Protect Migratory Birds (January 10, 2001)*
- *EO 13175, Consultation and Coordination With Indian Tribal Governments (November 6, 2000)*

- *EO 13112, Invasive Species (February 3, 1999), Amended by EO 13286 (February 28, 2003) and EO 13751 (December 5, 2016)*
- *EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), Amended by EO 12948 (January 30, 1995)*
- *EO 11991, Relating to Protection and Enhancement of Environmental Quality (May 24, 1977), amending EO 11514 (March 5, 1970)*
- *EO 11990, Protection of Wetlands (May 24, 1977), as amended by EO 12608 (September 9, 1987)*
- *EO 11988, Floodplain Management (May 24, 1977), as amended by EO 12148 (July 20, 1979)*
- *EO 11514, Protection and Enhancement of Environmental Quality (March 5, 1970), as amended by EO 11991 (May 24, 1977)*

Code of Maryland Regulations (COMAR)

- *Erosion and Sediment Control (COMAR 26.17.01.00)*
- *Maryland Nontidal Wetlands Protection Act of 1989*
- *Stormwater Management (COMAR 26.17.02)*
- *Floodplains (COMAR 26.17.03)*
- *Threatened and Endangered Species (COMAR 08.03.08)*

3 ALTERNATIVES DEVELOPMENT

3.1 HOW WERE THE MRC MASTER PLAN ALTERNATIVES DEVELOPED?

GSA and FDA used a project team of urban planners, architects, architectural historians, environmental scientists, engineers, landscape architects, and economists to coordinate the development of feasible and distinct alternatives with stakeholders and, through review with the various agencies, have identified the following preliminary conditions for future growth at the MRC:

- Encourage employees to use alternative means of transportation.
- Maintain a 100- to 300-foot natural landscape buffer at the perimeter of the site.
- Minimize impacts to vegetation and wildlife by maintaining areas of contiguous forest.
- Support conservation of natural resources through careful siting and configuration of new features.
- Minimize impacts to the Upper Beaverdam Creek Watershed.

The project team then considered ways to place new buildings on the MRC to increase the amount of office space for FDA while trying to avoid major impacts and minimizing harm caused by the alternatives. After testing a range of options for each of the parcels, the options were narrowed down to the No-Action Alternative and three Action Alternatives that are considered in this Draft EIS. The Action Alternatives fit the overarching development framework because:

- New development is concentrated on the northern portion of the main campus (as was intended in the *1966 Site Development Plan*).
- New development is organized around a central open space and landscape amenity.
- Pedestrian connections and walkways provide connectivity between the MOD 1 and MOD 2 buildings and the BRF.
- New development does not encroach on pastures and does not impact operations at the Animal Research Facility.

3.2 WHAT ALTERNATIVES HAVE BEEN CONSIDERED IN THIS EIS?

This EIS considers the No-Action Alternative and three Action Alternatives.

3.2.1 What is the No-Action Alternative and Why is it Considered?

NEPA requires GSA and FDA to consider the No-Action Alternative because it provides a baseline for evaluating the environmental impacts of the Master Plan Alternatives. The No-Action Alternative provides a comparison of each of the Master Plan Alternatives in relation to current operations.

NO-ACTION ALTERNATIVE SUMMARY

- 480,000 gsf of office and laboratory space
- 300 assigned personnel
- Approximately 40 visitors per day
- 32 acres of pastures
- 320 surface parking spaces for employees, support staff, and visitors

Under the No-Action Alternative, a new MRC Master Plan would not be adopted, and FDA would continue its current operations at the MRC. The site would continue to be occupied by CVM and CFSAN employees and support staff. No new office, laboratory, or special use facilities would be constructed, and the number of employees and support staff would remain at 300 (**Figure 3-1**).

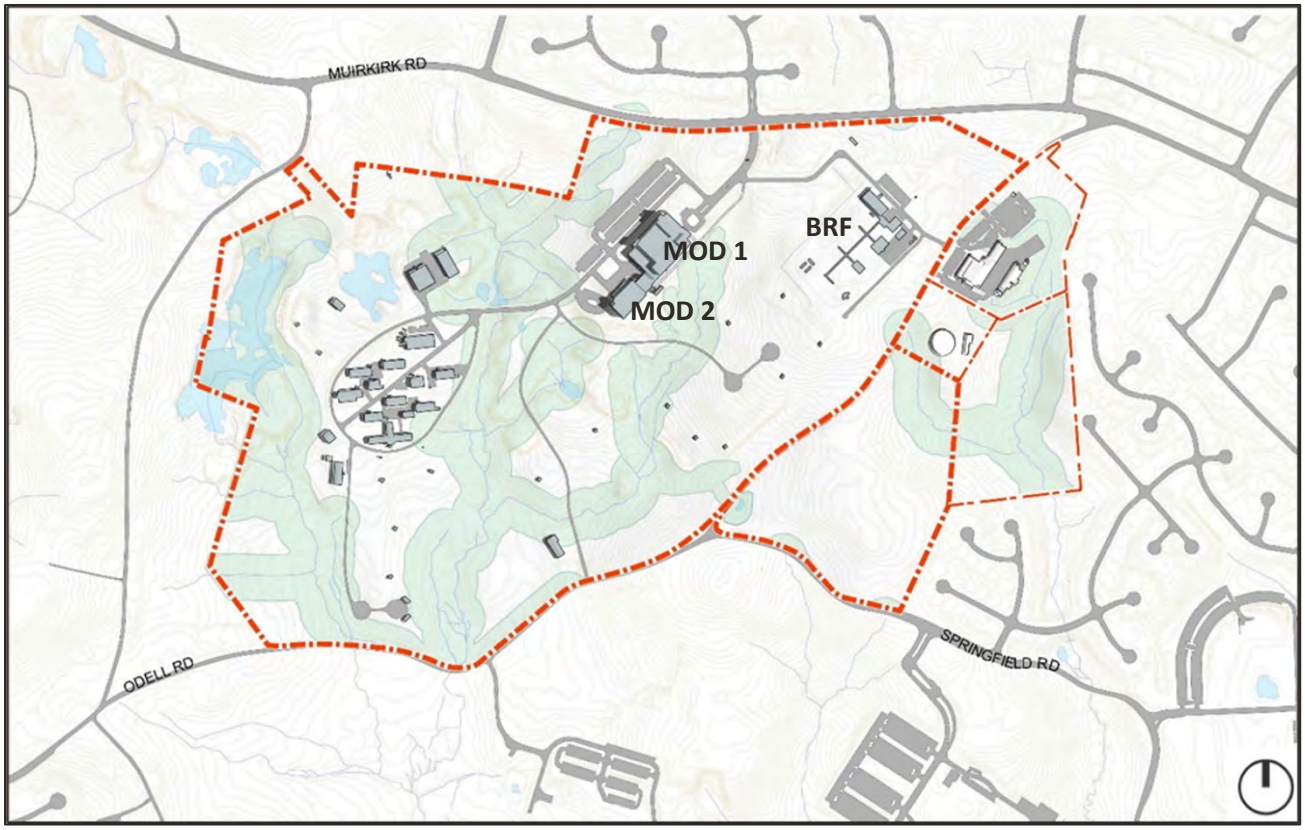


Figure 3-1. No-Action Alternative

At present, the MRC is home to:

- 480,000 gsf office and laboratory space
- 300 personnel assigned to the MRC (specifically employees and support staff for CVM and CFSAN)
- Approximately 40 visitors per day
- 32 acres of pastures
- 320 parking spaces for employees, support staff, and visitors (all surface parking)

Present and future actions that are a part of the No-Action Alternative include:

- Laboratory Studies - Phase 1 Program of Requirements (POR) and Infrastructure Study/Survey Mechanical, Engineering, Plumbing: This project will assess the future laboratory needs, special requirements, and timeframes for the MRC; Phase 2 Lean Lab Assessment: This assessment will evaluate the effectiveness and efficiency of the existing laboratories, identify improved utilization (right-sizing), and determine whether new spaces are required beyond the existing building footprint.

- MRC substation replacement project – This project will consist of replacing the 15 kilovolts (Kv) outdoor substation for the MRC. The two-primary medium-voltage conductors will be replaced from the substation to MOD 1. This project is currently at the 65 percent design phase.
- Six original air handling units (AHU) from 1984 will be replaced on the roof of MOD 1. This project is currently underway.
- Backflow Preventer Replacement – The MRC main backflow preventer off Muirkirk Road just outside the perimeter fence will be replaced. This is a single backflow preventer that was installed in 1997 and should have been a parallel assembly to provide redundancy. This project is scheduled for design and construction in fiscal year (FY) 2022.
- Replacement of exterior windows of MOD 1 in FY2022 or FY2023.
- Replacement of Generators at MOD 1 – This project is to replace the generators in the east and west generator rooms of MOD 1. They will all be increased in size from current capacity. The west side generators will be replaced in the same location and increased in size from 650 kilowatt (KW) to 1,000 KW. The two east side generators will be relocated to the side of the building near the transformers and will be increased in size from 370 KW to 500 KW. The oil fuel tank for the two east side generators will be increased in capacity from the existing 1,000- gallon above ground storage tank (AST) to a 5,000-gallon AST. This project is currently at the 65 percent design phase.
- Building Automation System (BAS) upgrade for all the outbuildings at MOD-2 – This project will remove the old outdated METASYS system and replace it with the Honeywell Tridium system. This project is scheduled to start in the fall of 2021.
- Replacement of Cooling Towers – GSA's 5-year project plan consists of replacing the cooling towers and structural steel supports at MOD 2. This is scheduled to be done in FY2022 or FY2023.
- Improve grading/drainage at North Loop Road from Building 1 to C-3.

FDA would continue to operate at several locations within the region to accommodate its employees and support staff to continue to fulfill its mission. Any additional FDA employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The housing of employees outside the MRC would continue to result in inefficiencies in coordination of work products and in use of administrative, management, and technical support functions. It should be noted that the No-Action Alternative does not meet the purpose and need of the proposed Master Plan.

3.2.2 What are the Components of the MRC Master Plan Alternatives

Each of the MRC Master Plan Action Alternatives would provide a total of 918,000 gsf of building space (**Table 3-1**). The existing MOD 1 and MOD 2 buildings totaling 480,000 gsf would be retained, and 438,000 gsf of new office building and special use space would be constructed. Special use space would include a truck screening facility, visitor/amenity center, maintenance and storage area, conference center, cafeteria, and fitness center. Each of the Master Plan Action Alternatives would add 1,500 new employees and support staff and approximately 207 visitors per day are anticipated. The Master Plan includes 900 parking spaces for employees and support staff (one parking space for every two employees and support staff), and 80 parking spaces for visitors, for a total of 980 parking spaces. The Action Alternatives would add a new entry gate at Odell Road and assume the back road entrance for emergency and special access would remain. Each Action Alternative emphasizes connectivity and walkability and envisions underground service corridors and skybridges between existing and new buildings. Each of the Action Alternatives would maintain tree cover and minimize environmental disturbances to include a 100-foot vegetation buffer along

the perimeter and a 300-foot buffer along the western perimeter. Bioswales, green roofs, and green façades adjacent to parking garages would be provided.

Table 3-1. Summary of MRC Master Plan Components

	Existing to be Retained	Phase 1 (5 – 7 years)	Phase 2 (7 – 20 years)	Total
Office/Laboratory Space – existing to be retained (gsf)	480,000			480,000
Proposed Office Space (gsf)		175,000	200,000	375,000
Special Use Space (gsf)		63,000		63,000
Employees	300	700	800	1,800
Total Employee Parking*		500	400	900
Total Visitor Parking*		80	0	80

**New parking includes replacement of existing parking displaced by new buildings.*

3.2.3 What Action Alternatives are Considered in this EIS?

Alternative A – Compact Campus

Development would be concentrated to the north and west of the MOD 1 and MOD 2 buildings under Alternative A (**Figure 3-2**). A strategically positioned atrium would allow for a view from the main entry, through the new building, into the forested stream valley at the center of the campus.

ALTERNATIVE A SUMMARY

- 375,000 gsf of office space in two new buildings
- Office buildings up to 5- to 6-stories tall
- 63,000 gsf of new special use spaces
- Two new parking garages with 900 spaces
- 80 surface parking spaces for visitors
- Elevated boardwalk & skybridges

Alternative A would include two new office buildings up to five to six stories tall adjacent to the existing MOD 1 and MOD 2 buildings. The existing surface parking lot west of MOD 1 would be replaced with a new building. The new building north of MOD 1 would be visible from the main entrance at Muirkirk Road. However, most of the building volume would be screened by forested areas that form the perimeter landscape buffer. Two new parking garages would be located at the BRF site that would contain 900 parking spaces, and 80 surface parking spaces would be provided for visitors. Facilities at the existing BRF site would be demolished to accommodate the new parking structures. An elevated boardwalk would be constructed within the natural landscape amenity space east of the MOD 1 and MOD 2 buildings. Two pedestrian skybridges would connect MOD 1 to the new buildings to the north and west. Alternative A would also include special use space for shared amenities including a conference center, cafeteria, and fitness center.

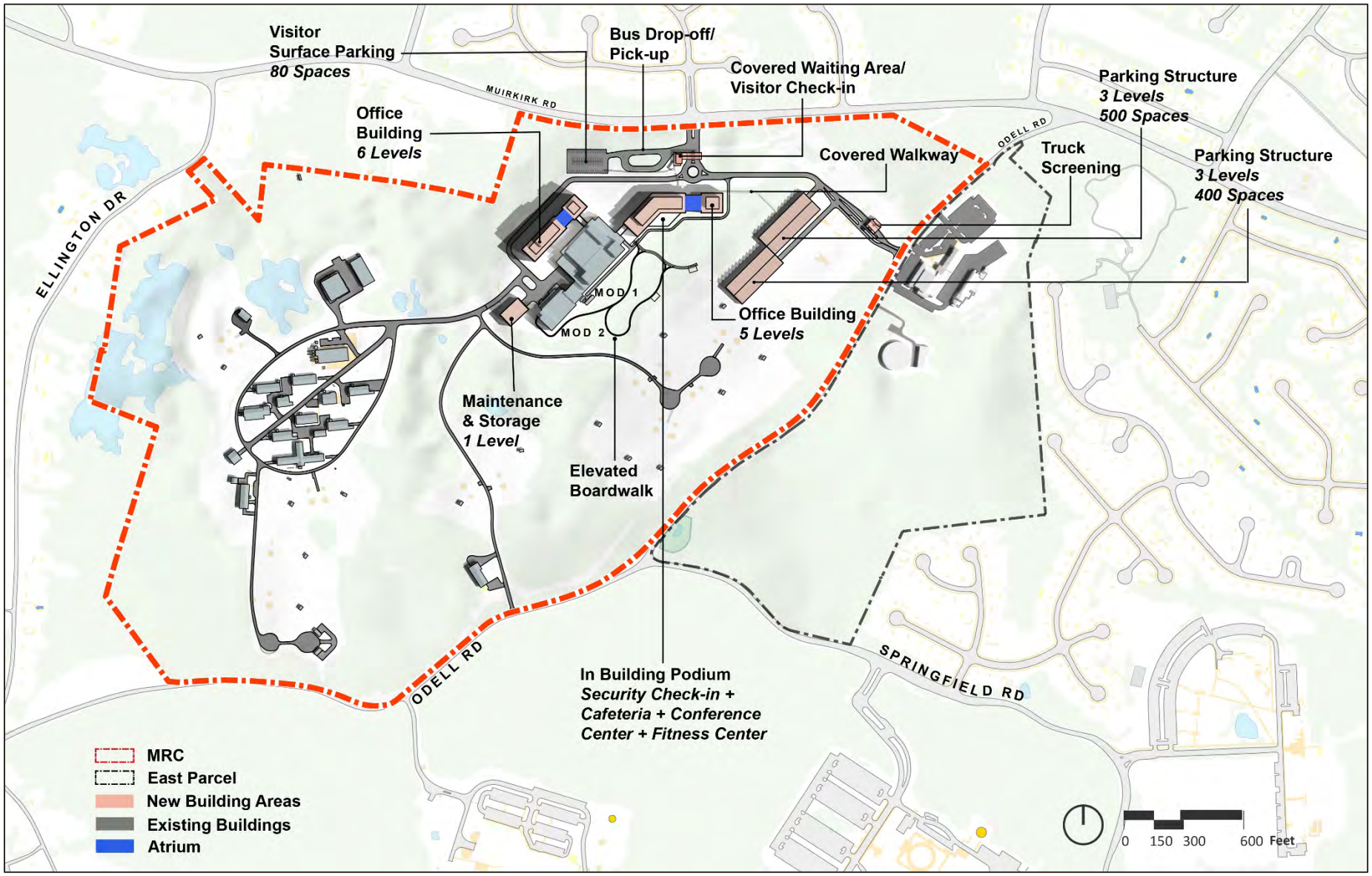


Figure 3-2. Alternative A – Compact Campus

Alternative B – Dual Campus

Development would be distributed between the MOD 1 and MOD 2 buildings and the BRF site. Similar to Alternative A, a strategically positioned atrium in Alternative B would allow for a view from the main entry, through the new building, into the forested stream valley at the center of the campus.

ALTERNATIVE B SUMMARY

- 375,000 gsf of office space in three new buildings
- Office buildings up to 5-stories tall
- 63,000 gsf of new special use spaces
- Two new parking garages with 900 spaces
- 80 surface parking spaces for visitors
- Elevated boardwalk and skybridges

With Alternative B, two new buildings up to five stories tall would be constructed to the northeast of MOD 1 and a third, a three-story building would be constructed to the south of MOD 2 (**Figure 3-3**). One of the northeast buildings would be adjacent to MOD 1 while the other would on the BRF site. Building heights would stay within the range of the existing MOD 1 building. The two new buildings would be connected by a pedestrian skybridge. An additional skybridge would connect the new buildings to the MOD 1 building. One parking garage would be constructed to replace the existing surface parking lot west of the MOD 1 and MOD 2 buildings. The second parking garage would be constructed at the BRF site. Facilities at the existing BRF site would be demolished to accommodate the new parking structure. These garages would be up to three stories tall and provide 900 employee and support staff parking spaces and 80 surface parking spaces would also be provided for visitors. An elevated boardwalk would be constructed within the natural landscape amenity space east of the MOD 1 building. Alternative B would also include space for shared amenities including a conference center, cafeteria, and fitness center.

Like in Alternative A, the new building north of MOD 1 would be visible from the main entrance at Muirkirk Road. However, most of the building volume would be screened by forested areas that form the perimeter landscape buffer. A strategically positioned atrium would allow for a view from the main entry, through the new building, into the forested stream valley at the center of the campus.

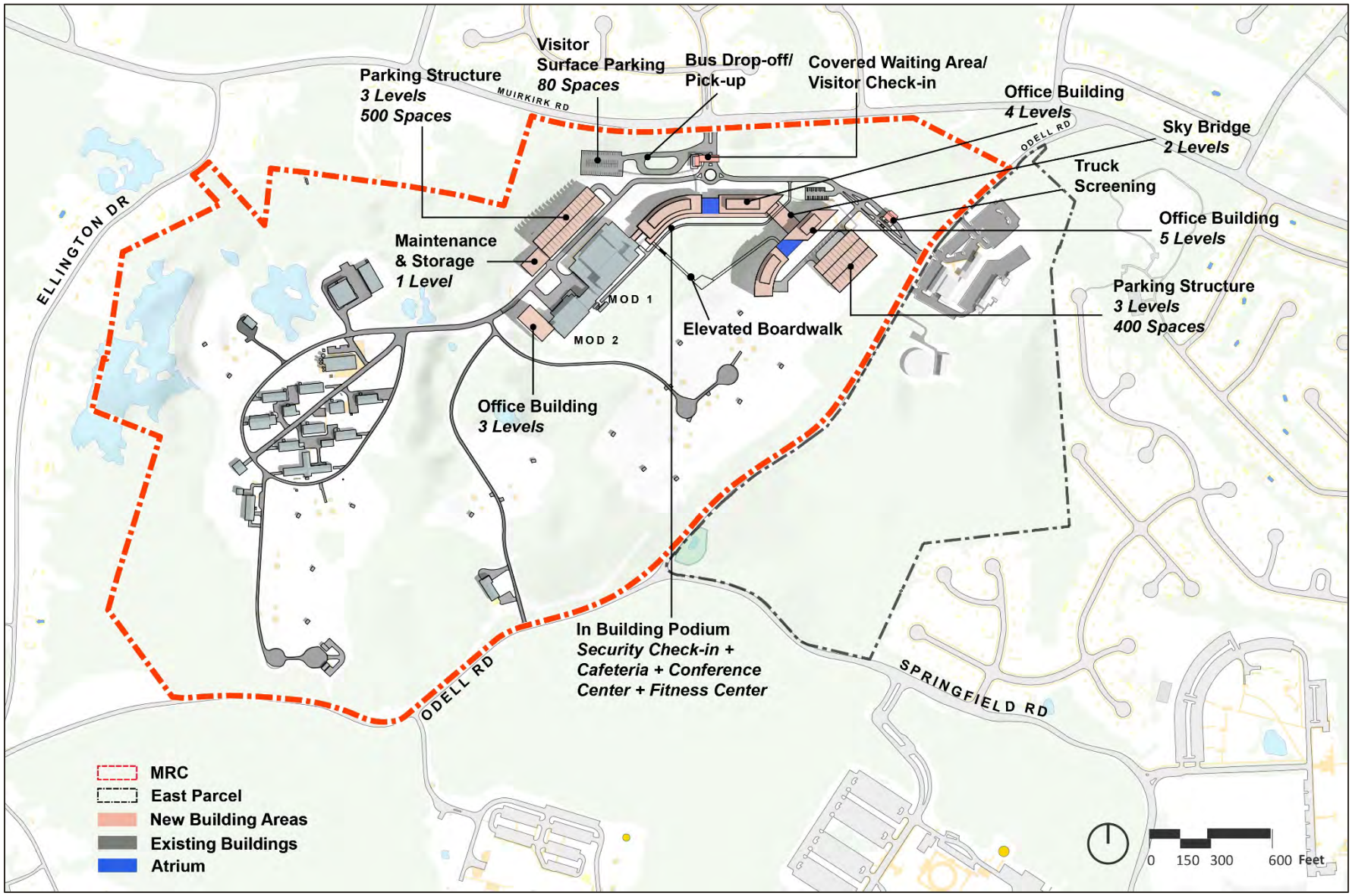


Figure 3-3. Alternative B – Dual Campus

Alternative C – Northeast Campus

Development would primarily occur at the BRF except for a maintenance/storage building south of MOD 2. The new buildings would barely be visible from the main entrance at Muirkirk Road as most of the building volume would be screened by forested areas that form the perimeter landscape buffer. The forested stream valley at the center of the campus would be visible from both buildings.

ALTERNATIVE C SUMMARY

- 375,000 square feet of office space at two new connected buildings
- Office buildings up to 5-stories tall
- 63,000 sf of new special use spaces
- Two new parking garages with 750 spaces
- 230 surface parking spaces for employees and visitors
- Elevated boardwalk

With Alternative C, the MOD 1 and MOD 2 buildings would remain. Alternative C includes two new office buildings that would be up to five stories tall at the BRF connected by a covered walkway (**Figure 3-4**). Two new parking garages up to three stories tall would be constructed to the east of the new buildings at the BRF. The parking garages would contain a total of 750 parking spaces and 230 surface parking spaces would also be provided. A portion of the existing surface parking lot adjacent to the MOD 1 and MOD 2 buildings would be returned to natural landscape. Of the 283 surface parking spaces currently located there, only 150 would remain. Eighty surface parking spaces would be provided adjacent to the repurposed BRF building. An elevated boardwalk would be constructed within the natural landscape amenity space west of the MOD 1 and MOD 2 buildings. Alternative C would repurpose the existing BRF building for a visitor center/security screening area. Alternative C would also include space for shared amenities including a conference center, cafeteria, and fitness center.

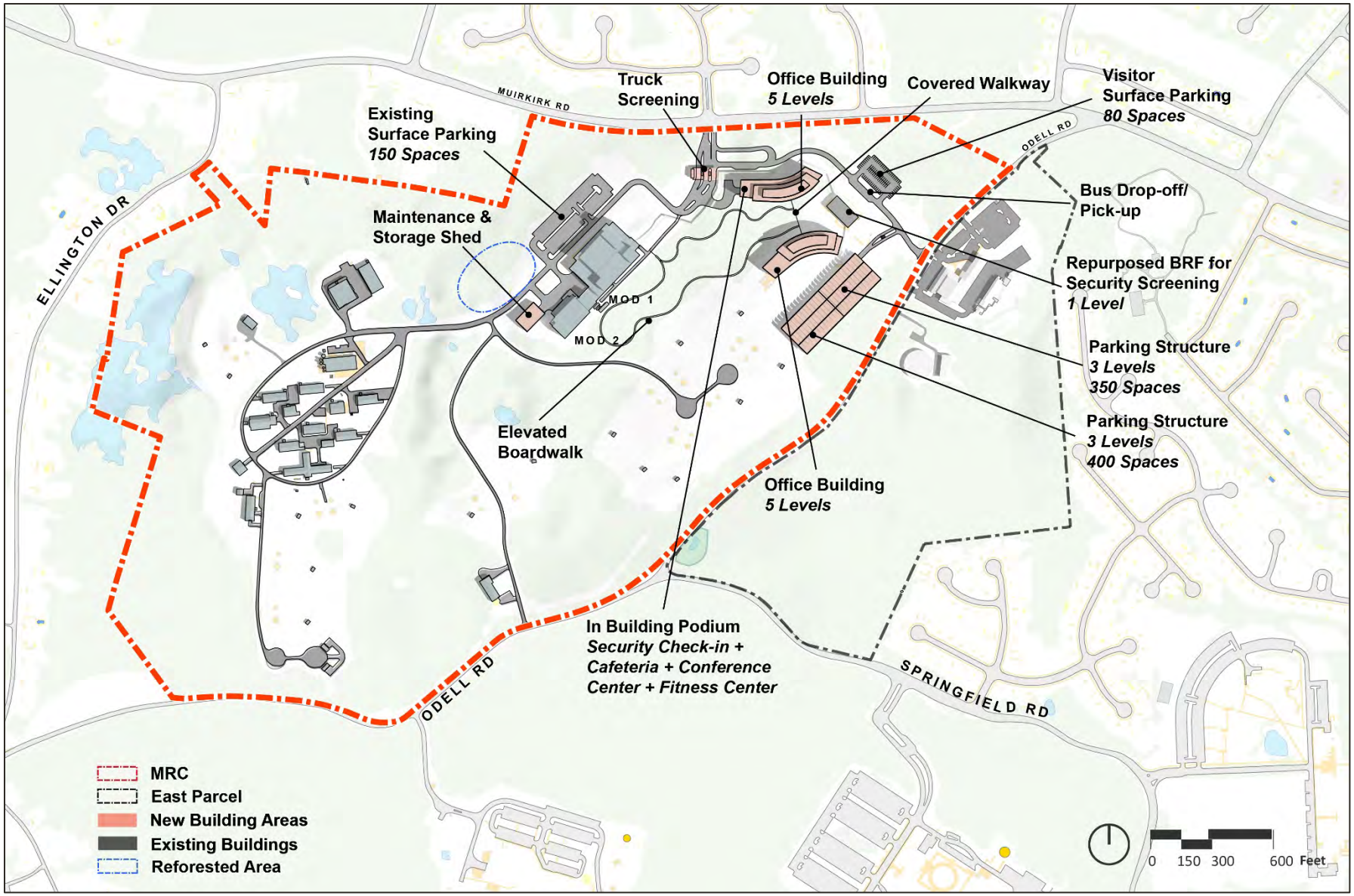


Figure 3-4. Alternative C – Northeast Campus

3.3 WHAT OTHER ALTERNATIVES DID GSA AND FDA CONSIDER, BUT NOT STUDY IN DETAIL?

As previously discussed in Section 2.1, in order to meet the purpose of and need for the proposed Master Plan, the project team studied existing resources at the MRC to determine the most suitable development plan for the site. The following alternatives were considered, but they were not studied in further detail in this EIS.

3.3.1 2018 Land Use Feasibility Study

In 2017, the Master Plan team conducted a Land Use Feasibility Study (LUFS) to evaluate the feasibility of accommodating FDA's housing growth and consolidation strategy. Based upon a preliminary site analysis, a series of land development strategies and scenarios were developed. The LUFS provided three strategies for development on the MRC. These three strategies were assessed to determine if they were suitable for further development. These were dismissed from further analysis because they did not fully meet the purpose of and need for the Master Plan and did not fully meet the goals and aspirations that FDA has for the MRC. Also, the three strategies would include greater impacts to the forested areas and the forested viewshed looking towards the MRC would be compromised. The dismissed strategies are discussed below.

Land Use Strategy 1: Low Intensity of New Build

Land Use Strategy 1 included low-intensity development at the BRF site. Under this strategy, a single new office building would be built in the northeast corner of the site (**Figure 3-5**). The former kennel grounds would be utilized for a new surface parking lot. The existing BRF buildings would be maintained, and the existing pasture lands would be preserved. This strategy would increase MRC capacity to 550 employees.

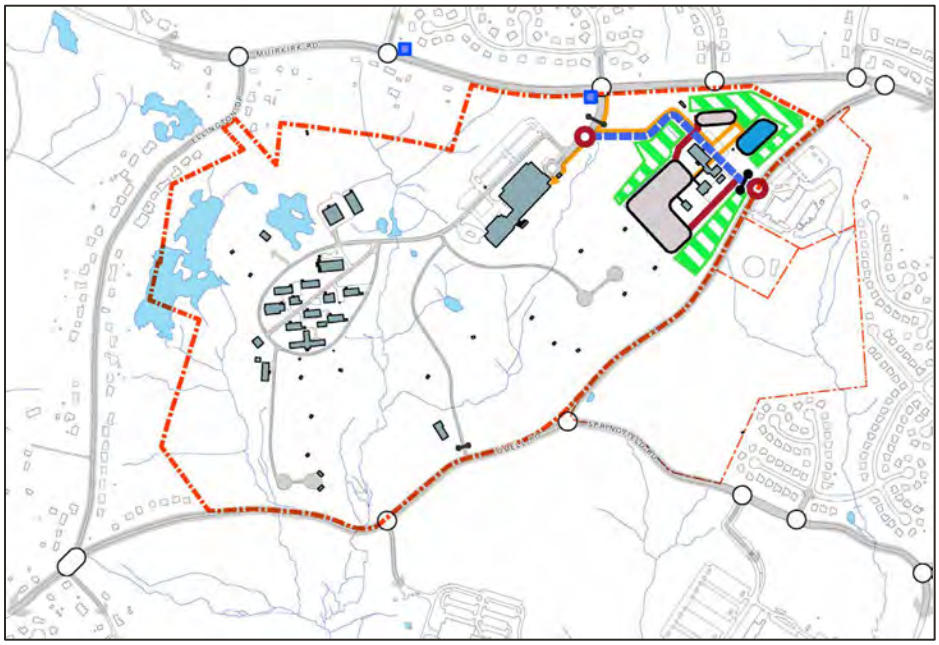


Figure 3-5. Land Use Strategy 1

Land Use Strategy 2 – Medium Intensity of New Build

Land Use Strategy 2 included medium-intensity development in the area of the BRF (**Figure 3-6**). This would include the development of two new office buildings that would be in the northeast corner of the site. The former kennel grounds would be expanded for a new surface parking lot. The existing BRF buildings would be removed, and a new program would be relocated within new office buildings. The existing pasture lands would be preserved. This strategy would increase MRC capacity to 1,100 employees.

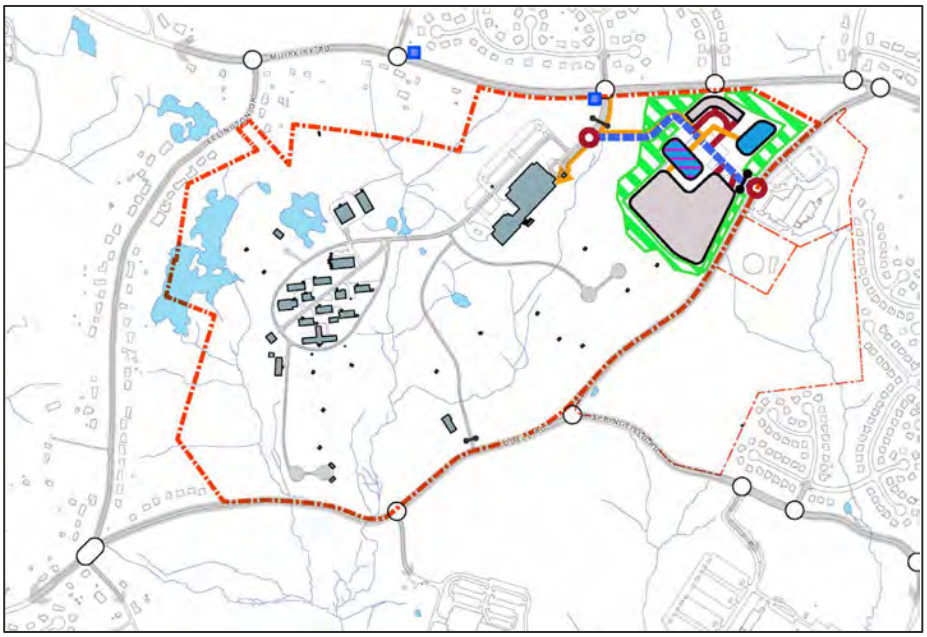


Figure 3-6. Land Use Strategy 2

Land Use Strategy 3 – High Intensity of New Build

Land Use Strategy 3 included high-intensity development in the area of the BRF and on the East Parcel (**Figure 3-7**). This would include development of multiple office buildings and new parking structures. The former kennel grounds would be expanded for a new surface parking lot. The existing BRF buildings would be removed and a new program would be relocated within new office buildings. The East Parcel would be utilized for new development. This strategy would increase MRC capacity to 1,650 to 3,850 employees.

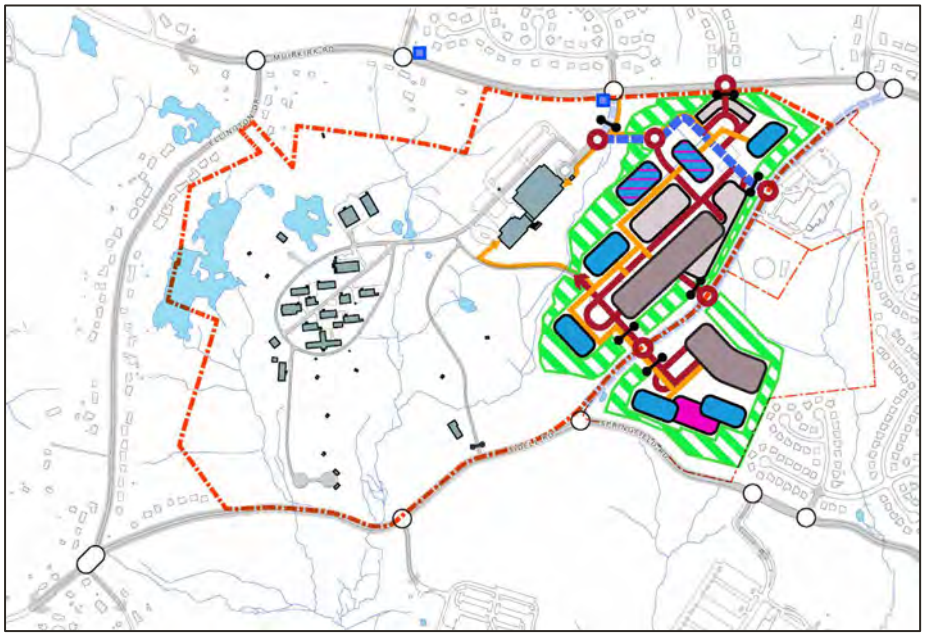


Figure 3-7. Land Use Strategy 3

3.3.2 Development of the East Parcel

GSA and FDA considered developing the undeveloped land on the East Parcel. Development on the East Parcel was dismissed from further analysis because:

- Development on the East Parcel would significantly impact natural resources, including forested areas, wetlands, streams, and wildlife.
- Development in this area would impact archaeological resources.
- Distance between the MOD 1 and MOD 2 buildings and the East Parcel would not promote walkability throughout the site.
- There is a public roadway (Odell Road) bisecting the parcels.
- There is a lack of public transit along Odell Road. The distance from existing bus stops and Maryland Area Regional Commuter (MARC) stations along Muirkirk Road would not promote use of alternative modes of transportation.
- It was determined that the additional 1,500 employees could fit on the currently developed land at the MOD 1 and MOD 2 buildings and the BRF site.

While FDA may consider development east of Odell Road in the future, the East Parcel is not part of this Master Plan. Therefore, development on the East Parcel has been dismissed from further consideration in this EIS.

3.3.3 Development of the Southern Portion of the MRC

The southern portion of the MRC houses the CVM. This portion of the campus is dedicated to the Animal Research Facility and consists of a series of small structures that are connected by paved roads to the pastures. The southern portion was withdrawn from further consideration due to bio-security requirements associated with the research that restricts access to authorized personnel only. Furthermore, part of this complex is an animal quarantine building, which is located at the gated entrance at Odell Road south of its intersection with Springfield Road. In addition, development on the southern portion of the MRC would impact the pasture areas that are used for the operations of the CVM and their ongoing needs in the future. These areas are needed to corral livestock in case of a food safety issue or outbreak of infectious disease. Therefore, development of the southern portion of the MRC has been dismissed from further consideration in this EIS.

4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The CEQ regulations require that the EIS "succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration, including the reasonably foreseeable environmental trends and planned actions in the area(s)…" (40 CFR 1502.15). This chapter of the Draft EIS describes the affected environment (existing conditions) that may be impacted by this Master Plan and presents the impacts that may occur on the MRC and the surrounding area if the proposed MRC Master Plan were implemented. The affected environment varies depending on the resource under consideration (**Table 4-1**). To determine the environmental impact of future development at the MRC, a study area was determined. The EIS Study Area is approximately 76 acres (**Figure 4-1**).

Table 4-1. Resources Areas and the Affected Environment

Affected Environment	Resource Area
The MRC Study Area – specifically the northern part of the MRC that includes the MOD 1 and MOD 2 buildings and the BRF (**Figure 4-1**)	• Natural Resources • Cultural Resources • Social and Economic Resources • Air Quality • Noise • Transportation • Utilities • Environmental Contamination
The MRC – specifically the 197 acres west of Odell Road	• Cultural Resources • Air Quality • Noise • Transportation • Utilities •
Adjacent Communities	• Cultural Resources • Social and Economic Resources • Air Quality • Noise • Transportation • Utilities
NCR Region – specifically, jurisdictions as far north, south, east, and west as Washington, DC, the counties of Charles, Frederick, Montgomery, and Prince George's in the state of Maryland, and the counties of Arlington, Fairfax, Loudoun, and Prince William in the Commonwealth of Virginia (MWCOG, 2021).	• Cultural Resources • Social and Economic Resources • Air Quality • Noise • Transportation

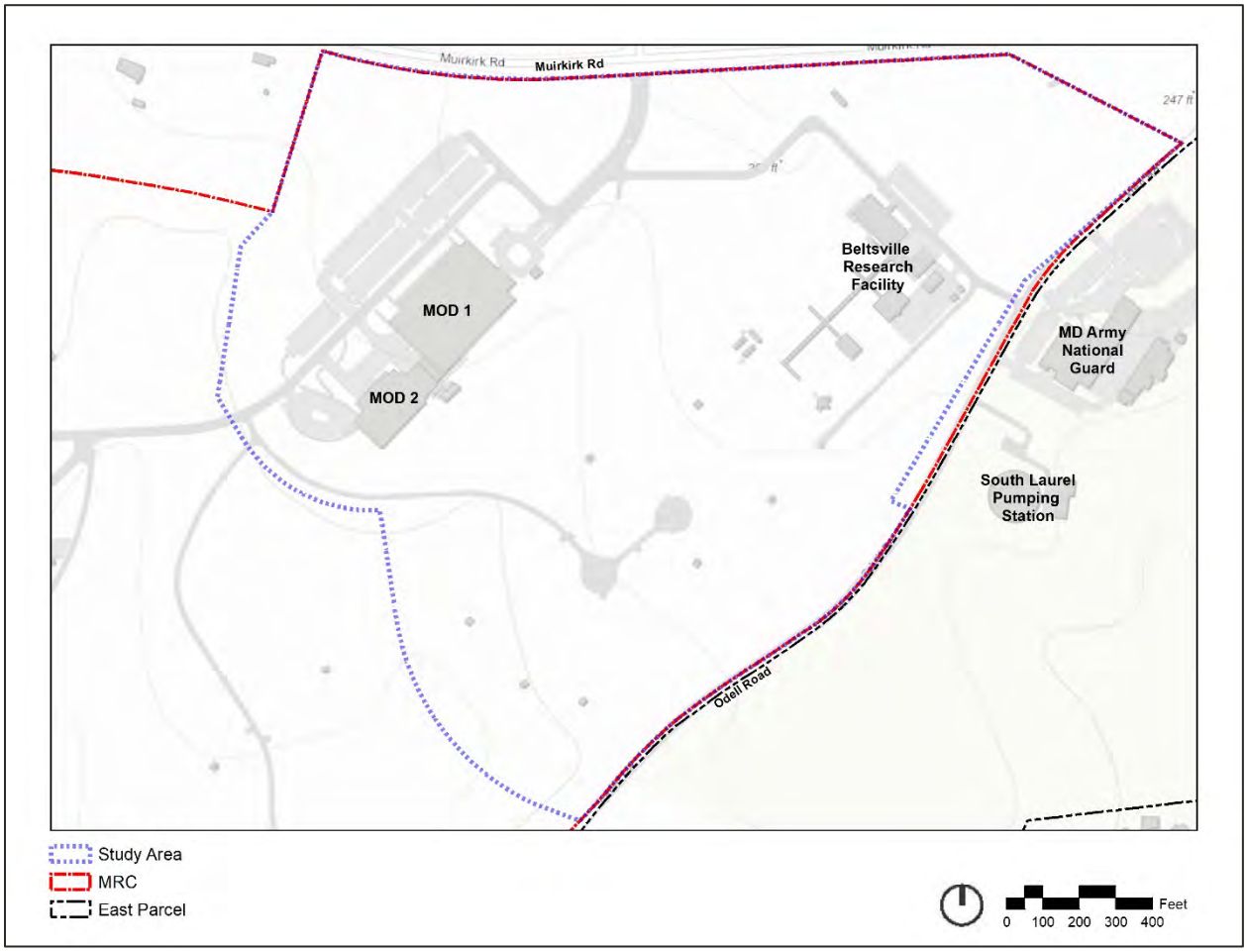


Figure 4-1. MRC Master Plan Study Area Map

Each of the Action Alternatives described in Section 3.4 would have varying impacts to natural resources, the social and economic environment, cultural resources, and infrastructure. Impacts can occur from construction (i.e., temporary or short-term impacts), as well as operation of the MRC once construction is complete (i.e., permanent or long-term impacts). Potential impacts are described in terms of intensity, type, duration, and context (**Table 4-2**). 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 and FDA would implement to minimize and mitigate impacts.

Table 4-2. Impact Intensity Thresholds

Impact Description	Definition
Intensity	**Negligible**: The impact is not measurable or discernable from current conditions **Minor:** The impact is slight but detectable **Moderate:** The impact is readily apparent, and there would be a noticeable change from current conditions **Major:** The impact is severe, significant, and highly noticeable. Major impacts may be above a threshold of significance

Impact Description	Definition
Geographic Context	**Site-specific:** Impacts are limited to the MRC **Local**: Impacts extend beyond the MRC and affect the area within the general vicinity of the MRC **Regional:** Impacts affect a larger area such as the Anacostia area or the National Capital Region
Duration	**Short-term:** Temporary, lasting less than 1 year **Long-term:** Lasting 1 or more years after construction

The effects on the human environment were assessed using best available scientific studies, guidance documents, and information. Resources used to analyze the impacts were obtained from Federal, state, and local agencies. These include, but are not limited to:

- U.S. Environmental Protection Agency (USEPA) analyses and reports
- U.S. Geological Survey (USGS) Soil Surveys
- U.S. Army Corps of Engineers (USACE) wetland manuals
- Federal Emergency Management Agency (FEMA) floodplain maps
- USFWS threatened and endangered species lists
- MDNR threatened and endangered species lists
- Hazardous waste studies
- Federal Highway Administration (FHWA) traffic guidance
- MWCOG reports
- Prince George's County and M-NCPPC plans and guidelines

4.1 WHAT IMPACT TOPICS ARE BEING DISMISSED FROM FURTHER REVIEW IN THIS EIS?

GSA and FDA have dismissed several resource topics from further analysis because implementation of the proposed MRC Master Plan would result in negligible impacts. Negligible impacts are localized and immeasurable at the lowest level of detection. Resource topics eliminated from further analysis and the rationale for dismissing them are discussed in the following section.

4.1.1 Geology

The MRC is located within the Coastal Plain physiographic province near the fall line of the Piedmont Plateau. The Coastal Plain is underlain by a wedge of unconsolidated sediments including gravel, sand, silt, and clay (MGS, 2021). Based on information available in the *USGS Earthquake Catalog* there have been no earthquakes recorded within the past 30 years within 50 miles of the MRC that registered on the Richter scale (USGS, 2021a). The MRC is in a low hazard area and there is a low probability for a ground shaking event over a 50-year period (USGS, 2018). The MRC is in a low confidence area for landslides based (USGS,

2021b). According to Maryland Geological Survey (MGS), measurements are being taken yearly throughout Southern Maryland to assess the potential of land subsidence and to make a record of land-surface-elevation change (MGS, 2016). None of the MRC Master Plan Action Alternatives would require deep excavations for underground basements or parking that would result in changes to the geology of the MRC. Therefore, geology has been dismissed from further analysis in this EIS.

4.1.2 Floodplains

Floodplains are mapped by FEMA to identify flood hazards, assess flood risks, and guide mitigation actions. Floodplain mapping involves delineation of the 1-percent-annual-chance (100-year) flood; a flood that has a 1-percent chance of being equaled or exceeded in any given year; and the 500-year floodplain which is the area of minimal flood hazard.

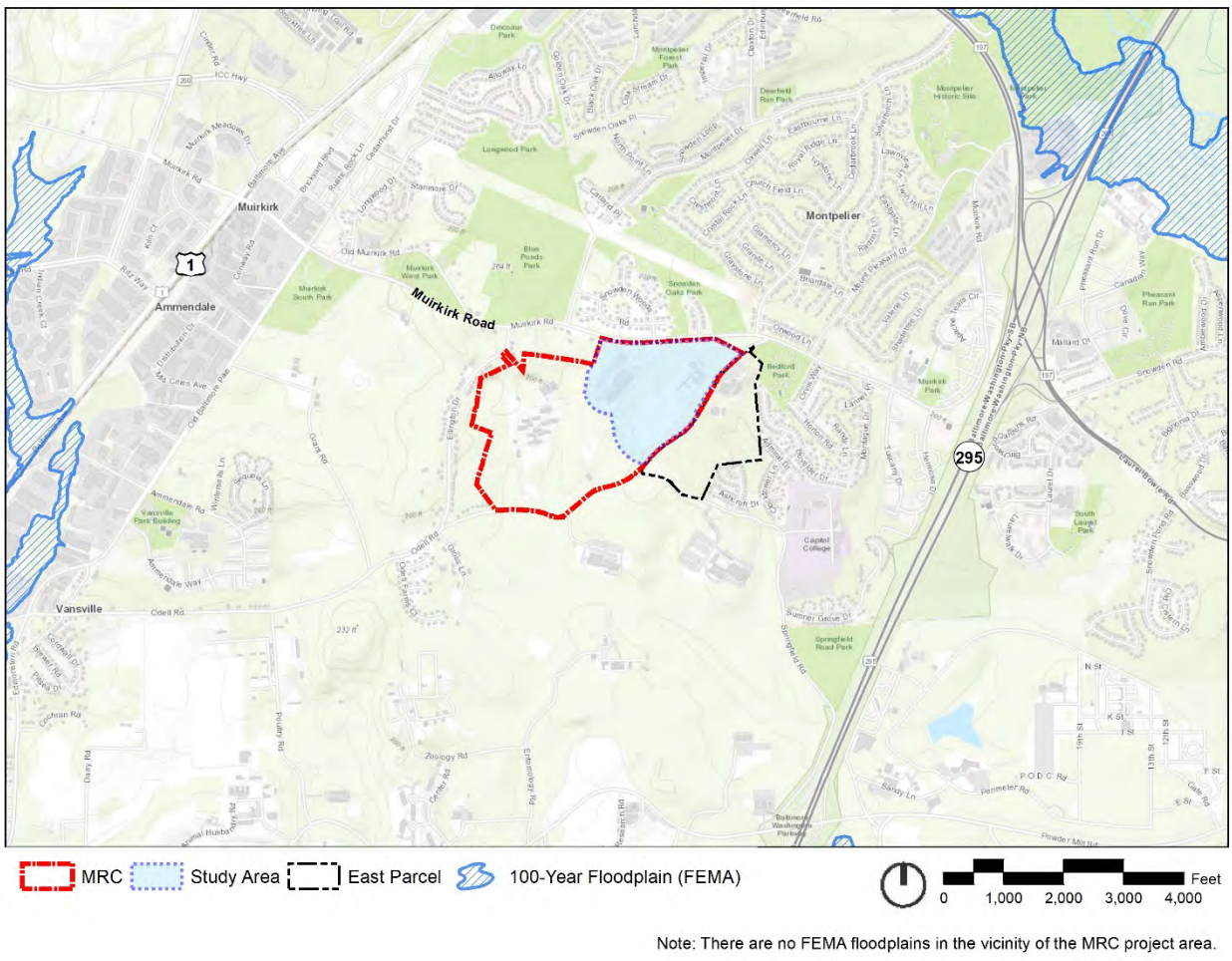
The MRC is mapped on *FEMA Flood Insurance Rate Map (FIRM) Panel 24033C0065E*, effective September 16, 2016 and is located in Zone X, an area of minimal flood hazard (FEMA, 2016). Based on the FEMA map, there are no 100- or 500-year floodplains located within or adjacent to the MRC (**Figure 4-2**).

Prince George's County has recently issued requirements for 100-year stormwater quantity control for areas included in the County's 100-year flood control map. While the MRC is not located within the FEMA mapped 100- and 500-year floodplain, it is within the area identified on the County's 100-year flood control map. A downstream analysis is required to determine whether Overbank Flood Protection (10-year storm) or Extreme Flood Protection (100-year storm) would need to be addressed (see Section 4.6.4 for additional details). Because the MRC is not located within the 100- or 500-year floodplain, floodplains have been dismissed from further analysis in this EIS.

4.1.3 Protected Species

In accordance with the Endangered Species Act of 1973, coordination was conducted with USFWS and the MDNR. A review of the *USFWS Information for Planning and Consultation (IPaC)* website determined that the federally threatened northern long-eared bat (*Myotis septentrionalis*) potentially exists within the study area (USFWS, 2021). In a letter dated January 27, 2021, MDNR responded that there are no official state or Federal records for listed plant or animal species within the study area (**Appendix A**).

The Master Plan Action Alternatives would maintain the large, forested areas on the site that may provide habitat for the northern long-eared bat. However, forested areas within the MRC would be removed. Forest clearing would occur outside the roosting periods for the northern long-eared bat. The forested areas, along with the large pastures on the MRC, may also provide habitat for migratory birds which are protected under the Migratory Bird Treaty Act. 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, FDA 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 (See Section 4.8.3 and 4.8.4 for additional information). As development would occur outside the roosting periods for the northern long-eared bat and nesting periods for migratory birds, protected species have been dismissed from further analysis.



Source: FEMA, 2016

Figure 4-2. Floodplain Boundaries Near the MRC

4.1.4 Population and Housing

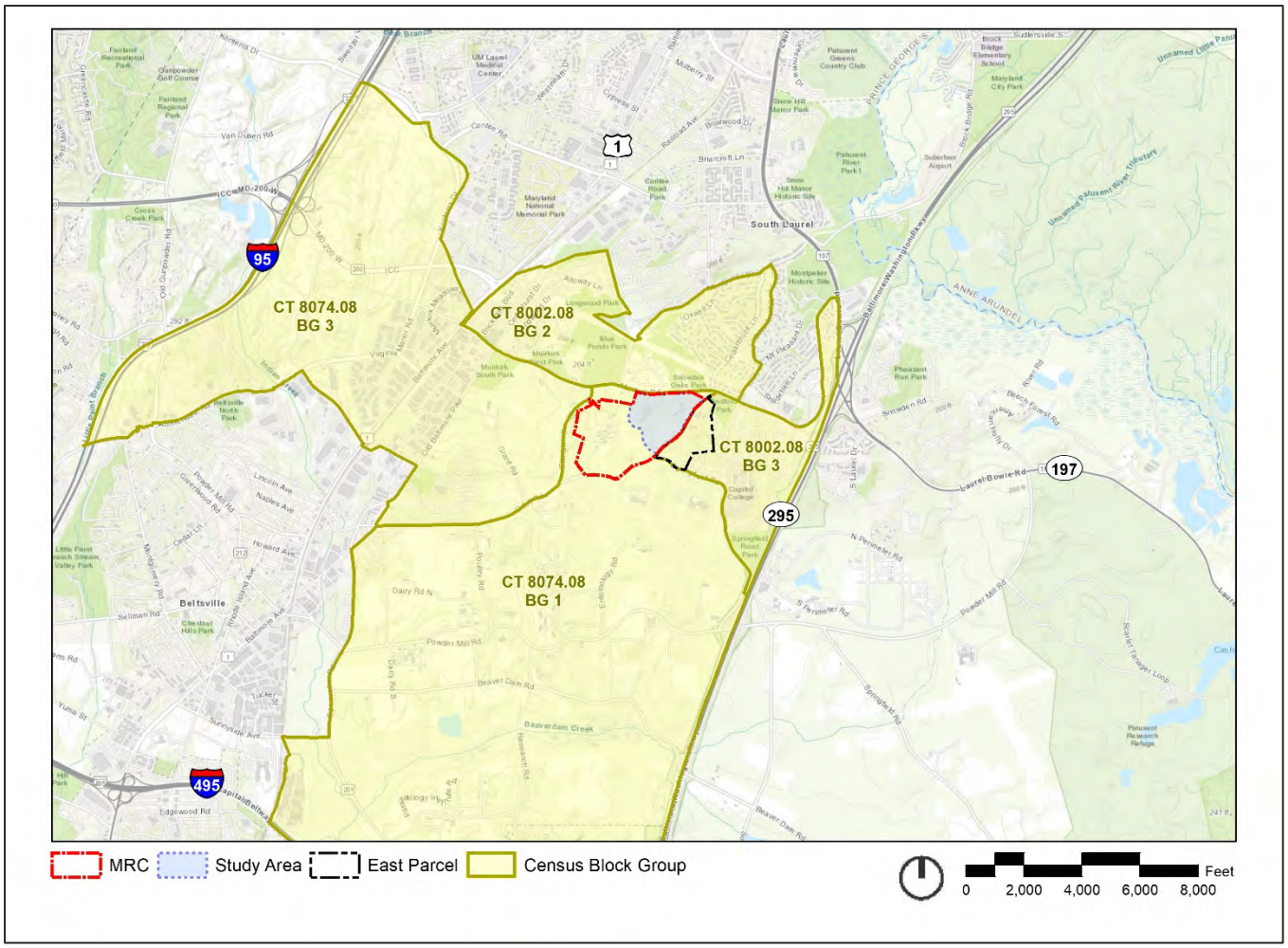
Table 4-3 displays comparative housing statistics for Prince George's County and the census tracts (CT) in the vicinity of the MRC. The CTs and Block Groups (BG) are shown on **Figure 4-3**. According to 2019 Census estimates, there are 335,778 housing units in Prince George's County, of which 94.2 percent are estimated to be occupied. According to 2019 American Community Survey estimates, the four BGs including, or adjacent to, the MRC have a combined total of 3,702 housing units, of which 95 percent are occupied (U.S. Census Bureau, 2019e).

Table 4-3. Selected Housing Characteristics

	Number of Housing Units	Percent Occupied	Median House Value ($)	Median Rent ($)
Prince George's County	335,778	94.2%	334,200	1,469
Study Area [a]	3,702	95.0%	328,800	1,466

	Number of Housing Units	Percent Occupied	Median House Value ($)	Median Rent ($)
CT 8002.08, BG 2	1,351	98.1%	392,400	1,778
CT 8002.08, BG 3 [b]	835	94.7%	332,100	1,294
CT 8074.08, BG 1 [b]	890	95.2%	231,900	1,325
CT 8074.08, BG 3	626	88.3%	358,800	**

Sources: U.S. Census Bureau, 2019d; U.S. Census Bureau, 2019e; U.S. Census Bureau, 2019l; and U.S. Census Bureau, 2019m.
a – includes all Census BGs including or adjacent to the MRC
b – Census BGs that include the MRC
** data unavailable



Sources: U.S. Census Bureau, 2019d; U.S. Census Bureau, 2019e; U.S. Census Bureau, 2019l; and U.S. Census Bureau, 2019m.

Figure 4-3. Census Tracts and Block Groups Adjacent and Including the MRC

In Prince George's County, the median house value is $334,200, and the median rental rate is $1,469 per month (U.S. Census Bureau, 2019d). The median house value in the vicinity of the MRC is $328,800 and the median rental rate is $1,466 per month (U.S. Census Bureau, 2019l, U.S. Census Bureau, 2019m). The median house value in the vicinity of the MRC is slightly lower than the county average; however, the median rent in the study area is on par with the county average.

Residential development in the vicinity of the MRC includes single-family dwellings along Ellington Drive to the west, Snowden Woods at Blue Ponds to the north, Woodbridge Crossing to the east of the MRC, and multi-family apartments east and west of the MRC. There are several new residential communities, such as the Brick Yard, that are either recently completed or under construction in the vicinity of the MRC, which include single-family and multi-family units.

Implementation of the MRC Master Plan is not anticipated to affect population levels or housing availability. While vacant positions may be filled from applicants that may have to relocate closer to the MRC, there are numerous residential areas in which they could purchase or rent property. FDA estimates that most FDA employees who may work at the MRC already live in the Washington, DC metropolitan region and would not have to move their residence if their offices relocate to the MRC. Therefore, population and housing have been dismissed as a topic for detailed study.

4.2 WHAT ENVIRONMENTAL RESOURCES WOULD BE IMPACTED BY THE PROPOSED ACTION?

The following sections describe the environmental resources that would be impacted by implementation of the MRC Master Plan. Measures to minimize or mitigate impacts are also described where appropriate.

The following resources are studied in detail:

- Topography & Soils
- Groundwater Quality & Hydrology
- Water Resources - Surface Waters & Wetlands
- Stormwater
- Vegetation
- Wildlife
- Coastal Zone Management
- Cultural Resources
- Viewsheds
- Land Use, Planning, and Zoning
- Community Facilities
- Safety and Security
- Economy and Employment
- Environmental Justice
- Air Quality
- Greenhouse Gases & Climate Change
- Noise
- Traffic and Transportation
- Environmental Contamination
- Utilities
- Waste Management

4.3 TOPOGRAPHY AND SOILS

4.3.1 Assessment Methodology

Impacts to topography and soils were analyzed based on the soil characteristics and current conditions of the study area 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 topography and soils are provided in **Table 4-4**.

Table 4-4. Impact Intensity Thresholds for Topography and Soils

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes to topography or soils from clearing, grading, and excavation	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 MRC) impacts	Localized (i.e., confined to the project sites) with high probability of Campus-wide or Regional (i.e., beyond the MRC) impacts
Duration	Temporary, lasting only through construction	Temporary, lasting only through construction	Lasting 1+ years after construction	Lasting 1+ years after construction

4.3.2 What are the Topographic and Soil Conditions at the MRC?

The topography of the MRC is generally rolling with elevations ranging from 100 to 300 feet above mean sea level (msl) (**Figure 4-4**). In the northern portion of the MRC, elevation is 250 feet above msl with steep slopes along the unnamed tributary of Beaverdam Creek. The area between the MOD 1 and MOD 2 buildings and the BRF has elevations around 200 feet above msl.

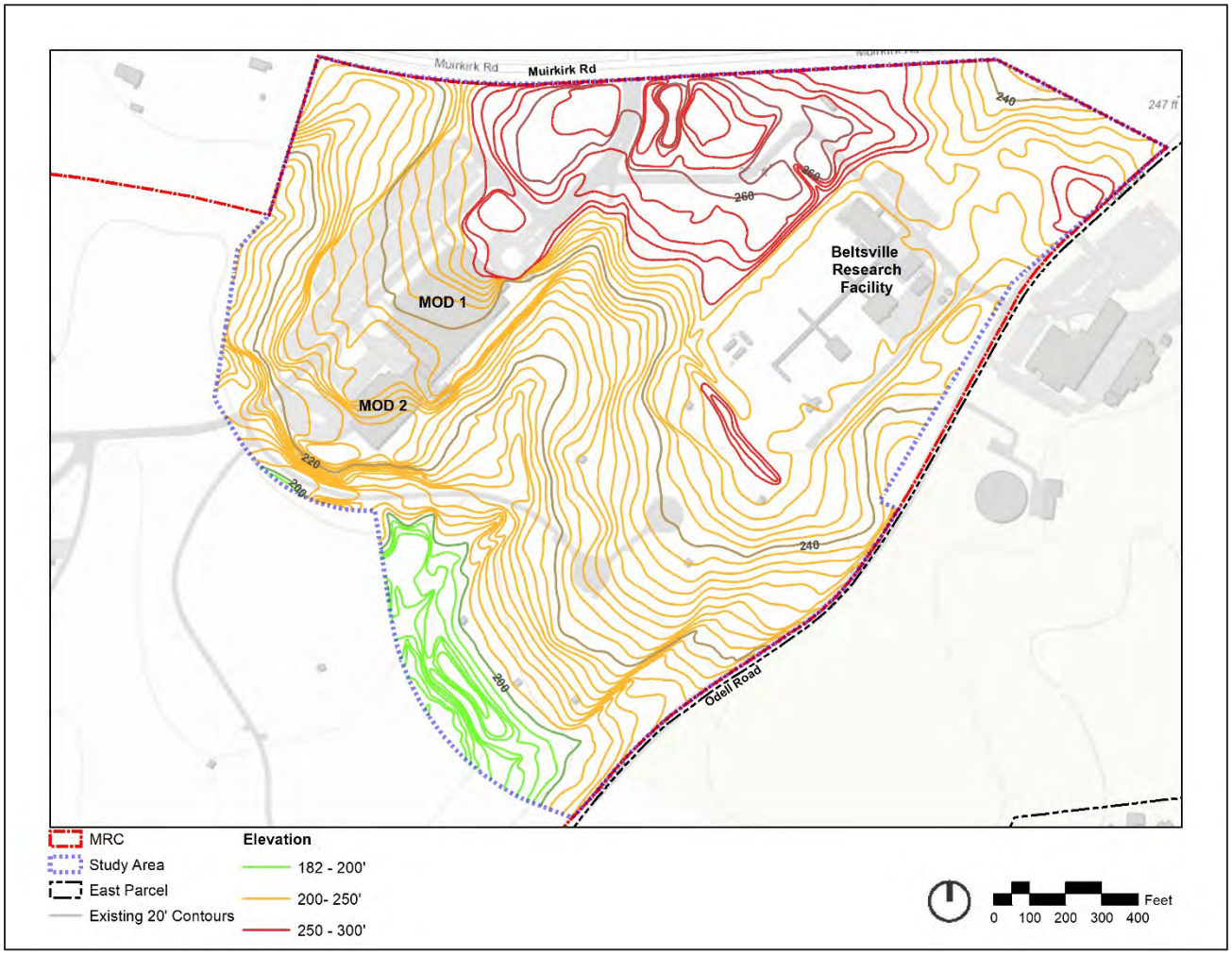
Slopes on the site range between 15 to 25 percent. Slopes of greater than 15 percent are considered to have severe hazard of erosion, which renders large portions of the site unsuitable for construction (USDA, 2020) (**Figure 4-5**). Steep slopes exist around the edge of the MOD 1 and MOD 2 buildings and the BRF, most likely due to grading during construction.

There are 13 soil types within the study area (**Figure 4-6**). The most abundant soil type is Downer-Hamonton complex, 5 to 10 percent slopes (DoC), which accounts for 39.3 percent of the soils and can be found

running through the center of the study area and between the MOD 1 and MOD 2 buildings and the BRF. The next most abundant soil type is classified as Galestown-Urban land complex, 0 to 5 percent slopes (GbB), which accounts for 17.7 percent and is located primarily beneath portions of the MOD 1 and MOD 2 buildings and the BRF. The study area is comprised of 4.1 percent of Urban land-Udorthents (0 to 5 percent slopes complex), which includes asphalt, buildings, or other structures. This soil unit is located beneath the BRF. Evesboro-Downer complex, 15 to 25 percent slopes (EwE) accounts for 2.4 percent of the study area and has the potential for severe hazard erosion (USDA, 2020). This soil unit is found within the study area to the southwest of the MOD 1 and MOD 2 buildings. Other soil units within the site that are listed in **Table 4-5** are rated to have a slight to moderate hazard for erosion (Maryland iMap, 2018).

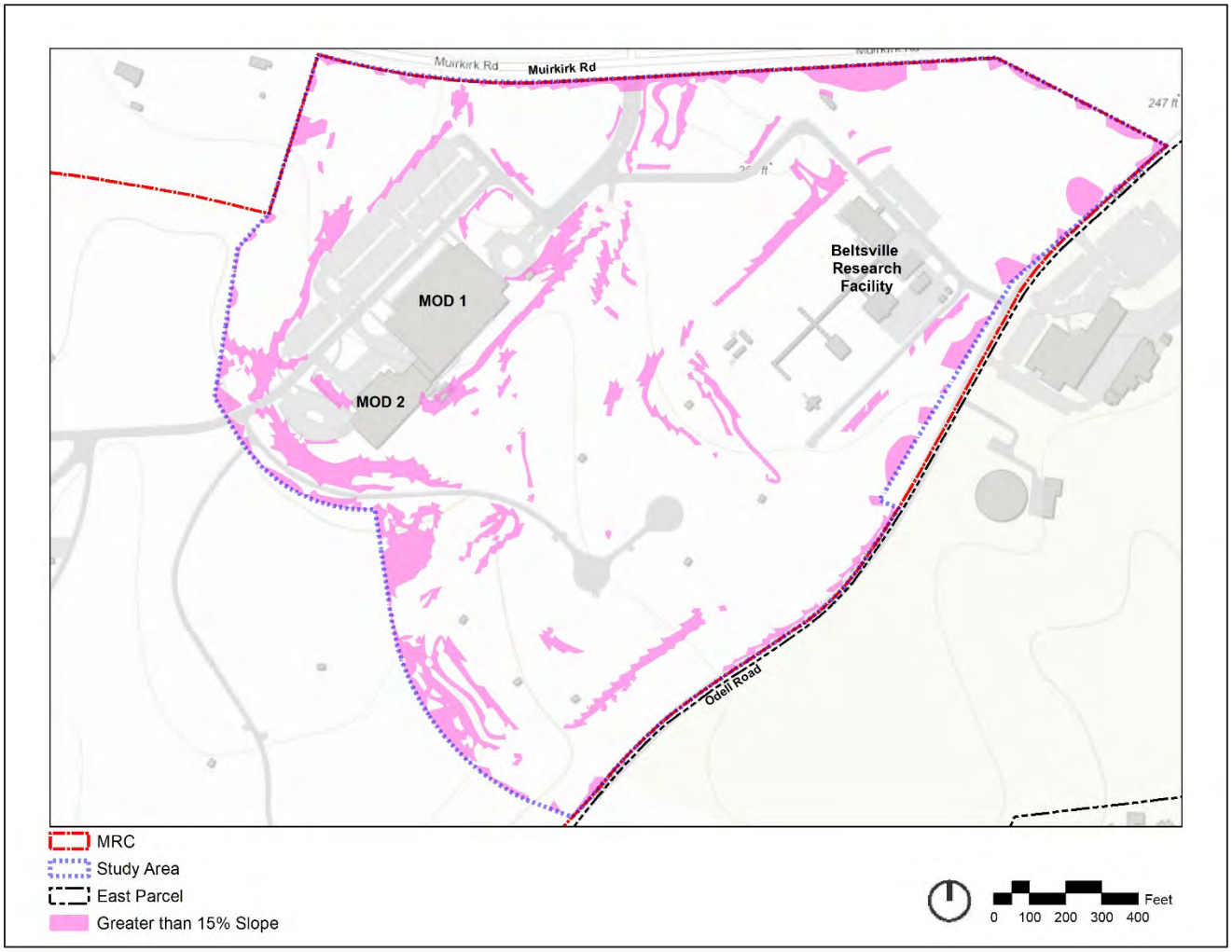
Soils formed under conditions of saturation, flooding, or ponding long enough to develop anaerobic conditions are considered hydric. Hydric soils that are saturated or inundated for a long enough period support hydrophytic vegetation under natural conditions. Only one soil unit within the study area, the Christiana-Downer Complex, 5 to 10 percent slopes (CcC), is considered hydric based on the five percent inclusion of Fallsington soils (USDA, 2020). This soil unit is in the southernmost portion of the study area where wetlands have been identified and comprise 6.7 percent of the soils.

Prime farmland soils are soils that have the best combination of characteristics for producing crops such as food, feed, forage, fiber, and oilseed crops. Evesboro-Downer complex, 0 to 5 percent slopes (EwB) is considered prime farmland soils if irrigated. The Christiana-Downer complex with 5 to 10 percent slopes and Downer-Hamonton complex, 5 to 10 percent slopes are classified as farmland soils of statewide importance and account for 46 percent of the soils within the project area (USDA, 2020). Although there are prime farmland soils within the MRC, the land is classified as urban or built-up and is therefore exempt from the Farmland Protection Policy Act (7 U.S.C. 4201 et seq).



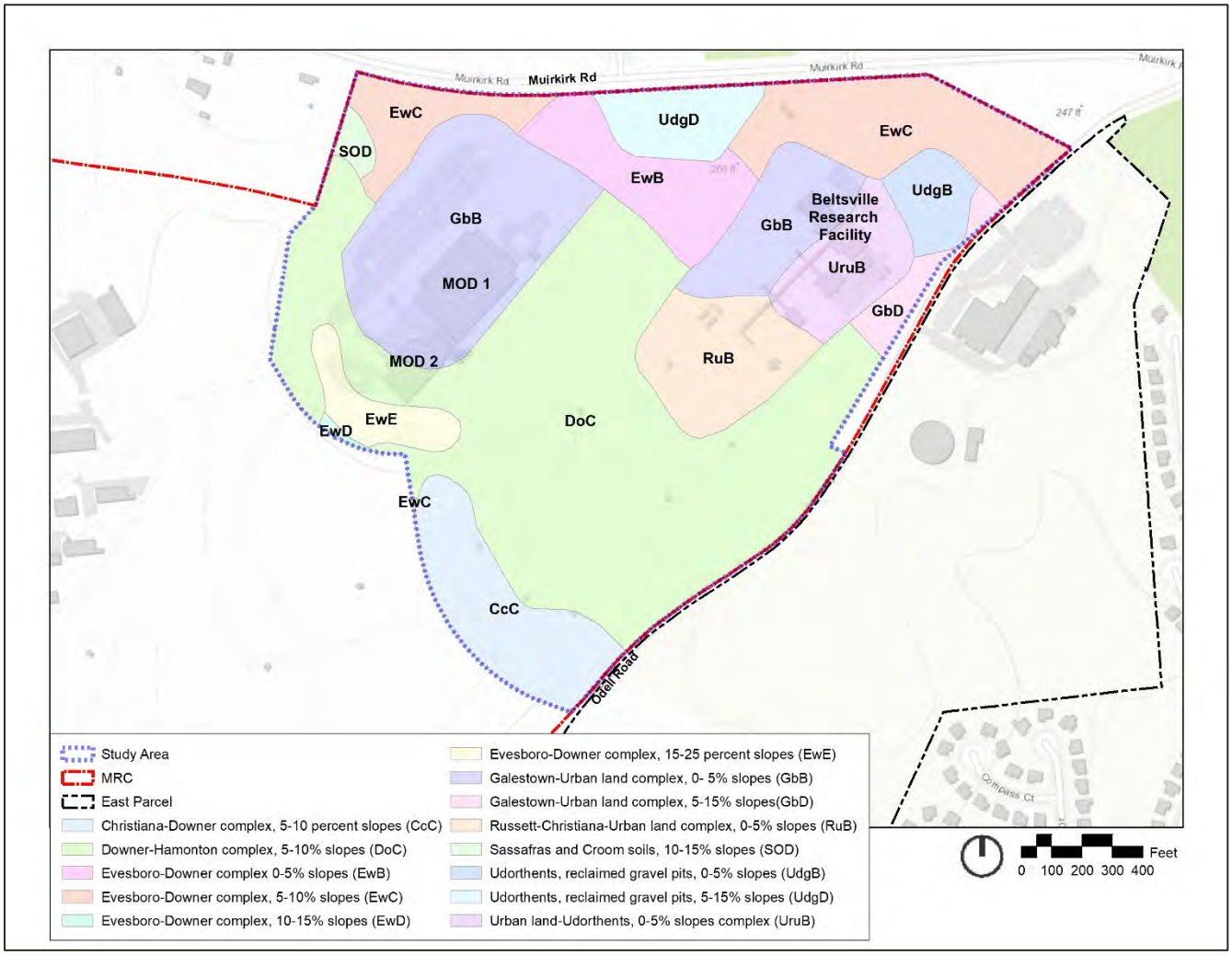
Source: Maryland iMap, 2018

Figure 4-4. Site Topography within the Study Area



Source: USDA, 2020

Figure 4-5. Steep Slopes within the Study Area



Sources: USDA, 2020 and Maryland iMap, 2018.

Figure 4-6. Soils Within the Study Area

Table 4-5. Soil Map Units Within the Study Area

Soil Map Unit	Map Unit Name	Acres in Study Area (%)	Hydric	Prime Farmland Status	Erosion Hazard
CcC	Christiana-Downer complex, 5 to 10 percent slopes	5.1 (6.7%)	Yes	Farmland of Statewide Importance	Moderate
DoC	Downer-Hamonton complex, 5 to 10 percent slopes	29.9 (39.3%)	No	Farmland of Statewide Importance	Moderate
EwB	Evesboro-Downer complex, 0 to 5 percent slopes	4.0 (5.3%)	No	Prime Farmland if Irrigated	Slight
EwC	Evesboro-Downer complex, 5 to 10 percent slopes	8.4 (11.0%)	No	Not Prime Farmland	Moderate

Soil Map Unit	Map Unit Name	Acres in Study Area (%)	Hydric	Prime Farmland Status	Erosion Hazard
EwD	Evesboro-Downer complex, 10 to 15 percent slopes	0.1 (0.2%)	No	Not Prime Farmland	Moderate
EwE	Evesboro-Downer complex, 15 to 25 percent slopes	1.8 (2.4%)	No	Not Prime Farmland	Severe
GbB	Galestown-Urban land complex, 0 to 5 percent slopes	13.5 (17.7%)	No	Not Prime Farmland	Slight
GbD	Galestown-Urban land complex, 5 to 15 percent slopes	1.2 (1.5%)	No	Not Prime Farmland	Moderate
RuB	Russett-Christiana-Urban land complex, 0 to 5 percent slopes	4.4 (5.8%)	No	Not Prime Farmland	Moderate
SOD	Sassafras and Croom soils, 10 to 15 percent slopes	0.5 (0.6%)	No	Not Prime Farmland	Moderate
UdgB	Udorthents, reclaimed gravel pits, 0 to 5 percent slopes	1.7 (2.2%)	No	Not Prime Farmland	Slight
UdgD	Udorthents, reclaimed gravel pits, 5 to 15 percent slopes	2.4 (3.2%)	No	Not Prime Farmland	Moderate
UruB	Urban land-Udorthents, 0 to 5 percent slopes complex	3.1 (4.1%)	No	Not Prime Farmland	Not rated

Sources: USDA, 2020 and Maryland iMap, 2018.

4.3.3 How would the Topography and Soils Change Under Each Alternative At The Site?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The No-Action Alternative would not result in site grading or construction of new buildings. Drainage improvements along the North Loop Road would temporarily disturb soils, but there would be no change to topography, and soil impacts would be negligible, short-term, and adverse.

Alternatives A, B, and C (Action Alternatives)

Implementation of the Master Plan under any of the Action Alternatives would require clearing and grading for the construction of new buildings, parking garages, bike paths, walking paths, and utilities that would impact soils and the existing topography. Grading for the new facilities would require leveling of the existing rolling topography and coverage of soils by buildings and other infrastructure. Trenching of soils would be required to install underground power, communications, water, and sewer lines.

Demolition of buildings and roads would expose approximately 7.8 acres of soils under Alternative A, 7.4 acres under Alternative B, and 5.2 acres under Alternative C. Excavation for the construction of the buildings, parking garages, bike paths, walking paths, and utilities would permanently remove 22.7 acres of soils from the MRC under Alternative A, 22.5 acres under Alternative B, and 20.2 acres under Alternative C (**Table 4-6**) (**Figure 4-7, Figure 4-8, Figure 4-9**). Alternative C is the least impactful to soils, as new buildings are proposed to the greatest extent within the existing footprint of the BRF. Under Alternatives A, B, and C, below-grade construction would result in the removal approximately 48,000 cubic yards (cy) of soil under Alternative A; 67,000 cy of soil under Alternative B; and 23,000 cy of soil under Alternative C. As noted in Sections 4.4, 4.5, and 4.6 removal of soils is not anticipated to have severe adverse impacts on ecosystem functions.

Table 4-6. Acreage and Steep Slopes Impacted by the Action Alternatives

	Additional Acres Impacted	Acres of Steep Slopes Impacted	Total Acres Impacted
Alternative A	22.7	1.5	24.2
Alternative B	22.5	1.4	23.9
Alternative C	20.2	1.2	21.4

Construction of new buildings, parking garages, bike paths, walking paths, and utilities would impact 1.5 acres of steep slopes under Alternative A, 1.4 acres under Alternative B and 1.2 acres under Alternative C, resulting in possible soil erosion (**Table 4-6**). Alternative C is the least impactful to steep slopes, as new buildings are proposed to the greatest extent within the existing footprint of the BRF. Mitigation measures, such as retaining walls, 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 soils with severe erosion potential 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.

A construction plan would be developed and would incorporate the necessary measures to stabilize steep slopes. Construction could also result in erosion of soils and sedimentation into local streams and stormwater networks. Erosion and sediment control best management practices (BMPs) would be utilized to contain erodible materials within construction sites until vegetation can be re-established to stabilize soils. With implementation of mitigation measures for construction on steep slopes and in areas containing soils with a severe erosion hazard, there would be moderate, long-term, adverse impacts due to the risk of soil erosion and slope failure.

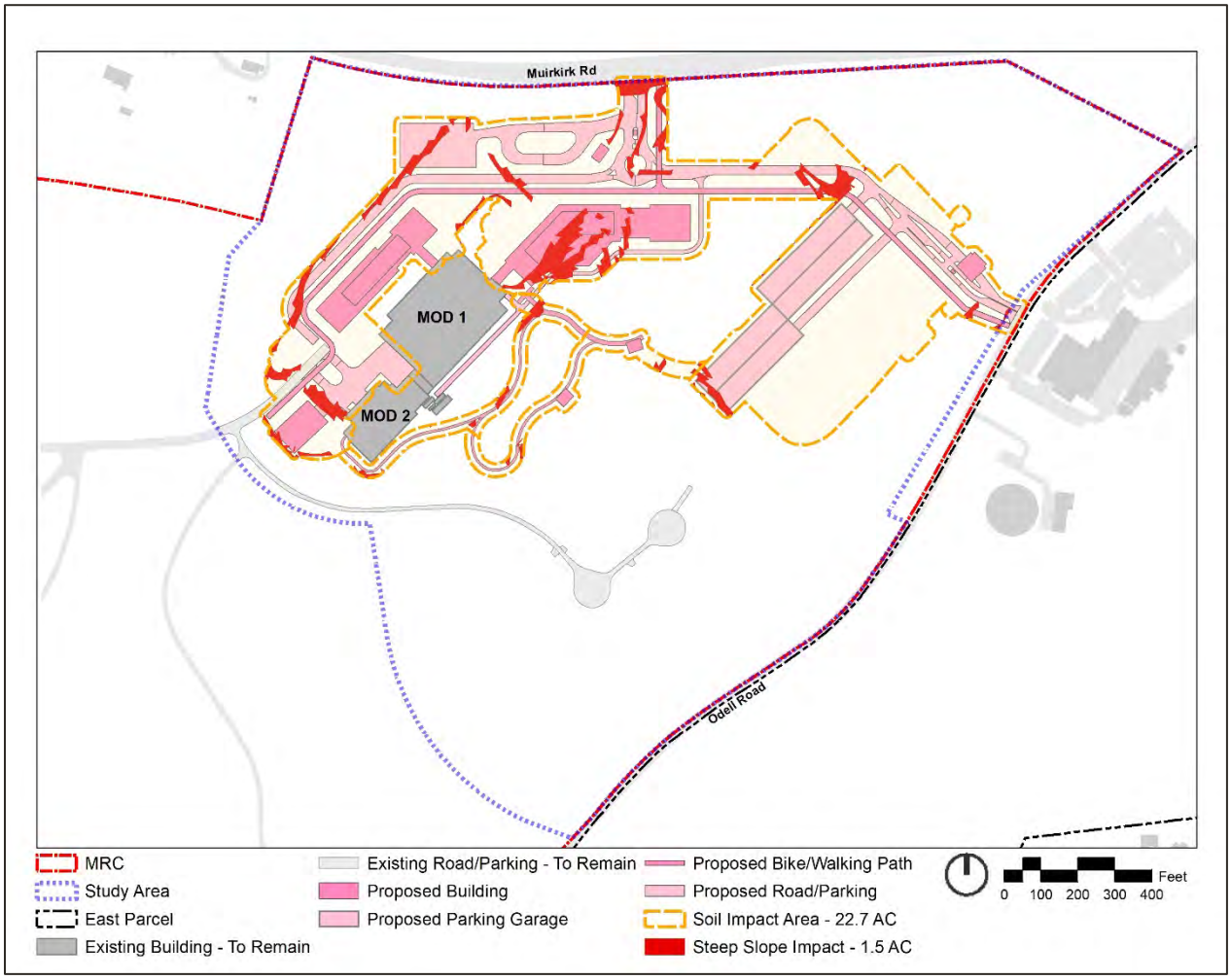


Figure 4-7. Soil Impacts Under Alternative A

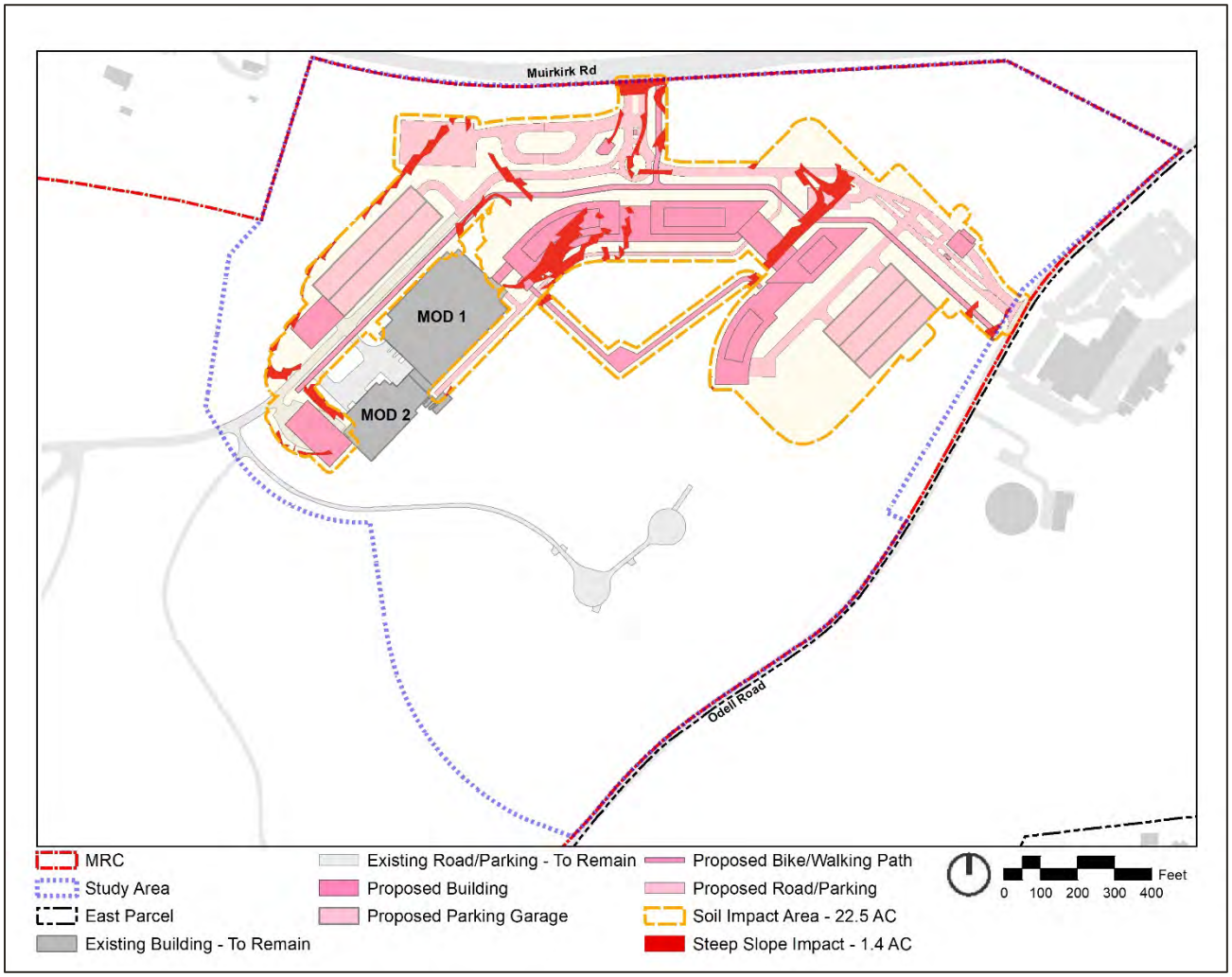


Figure 4-8. Soil Impacts Under Alternative B

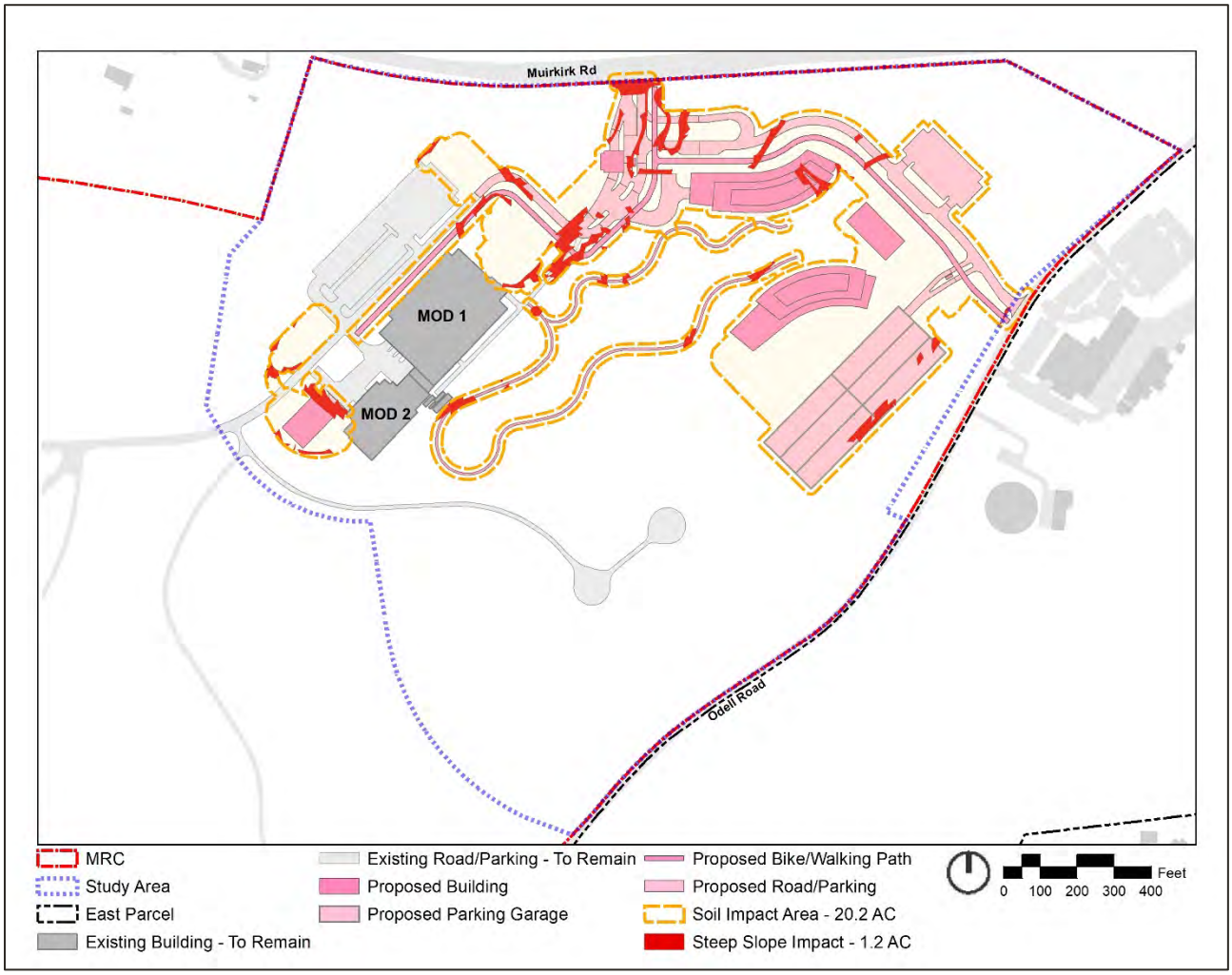


Figure 4-9. Soil Impacts Under Alternative C

4.3.4 What Measures Will Be Taken To Ensure That Erosion And Sedimentation Are Controlled?

Geotechnical engineering studies would be undertaken prior to design and construction to ensure that sound construction practices are followed. Suitability of soils for construction would be determined during final design, and appropriate building foundation specifications would be developed. In addition, soil stabilization measures would be designed, as necessary, to account for construction in areas with severe erosion potential. An erosion and sediment control plan would be developed in accordance with MDE and Prince George's County requirements and would be submitted to these agencies for approval. This plan would be implemented during construction to minimize sediment transport offsite. BMPs, such as silt fencing, construction sequencing, and seeding of exposed soil areas with grass seed would be used to control and minimize sedimentation into the streams, wetlands, and buffers.

Prior to construction, FDA 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. Construction contractors would be required to implement and maintain these erosion and sediment control measures until construction is complete and vegetation has been established. Additional information on BMPs is provided in Section 4.6 – Stormwater.

4.4 GROUNDWATER QUALITY AND HYDROLOGY

4.4.1 Assessment Methodology

Impacts to groundwater were analyzed based on the groundwater characteristics and current conditions of the study area in comparison with site conditions to be expected following construction. The existing depth of 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 4-7**.

Table 4-7. Impact Intensity Thresholds for Groundwater Quality and Hydrology

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

4.4.2 What Groundwater Resources Are Located at the MRC?

Groundwater on the MRC is available from two principal aquifer systems – the Northern Atlantic Coastal Plain aquifer system and the Piedmont crystalline-rock aquifer (fractured rock region). The Northern Atlantic Coastal Plain aquifer is primarily underlain by semi-consolidated to unconsolidated sediments consisting of silt, clay, and sand and is primarily fed by surface water infiltration. The sediments form a wedge shape, beginning at the Fall Line as a thin layer and becoming thicker as they near the coast. Groundwater in the aquifer is found in pore spaces between sediments and is unconfined near the surface, becoming confined deeper below a clay layer. The Piedmont aquifer is underlain by dense bedrock and is also primarily fed through surface water infiltration. Groundwater occurs in rock fractures under unconfined conditions (MGS, 2021).

Water for nearly all residential and commercial consumers in Prince George's County (including the MRC) is provided by the Washington Suburban Sanitary Commission (WSSC) and is obtained from either the Potomac or Patuxent Rivers (WSSC, 2021 and MDE, 2021). Groundwater is not used for potable purposes at the MRC. Based on the soils present on the site, most groundwater is over 80 inches below the surface around the MOD 1 and MOD 2 buildings and the BRF. However, around the stream on the most southern portion of the MRC study area the groundwater is closer to the surface, about 10- 40 inches deep (USDA, 2020). Groundwater intrusion has caused floor damage in the MOD 1 building (personal communication, 2021a).

There is one groundwater well that CVM uses solely for animal research purposes. The well is inspected by MDE to assess wastewater. CVM has a state discharge permit (17-DP-3215) and *National Pollutant Discharge Elimination System (NPDES) permit (MD3215Q03)* for the groundwater well. The outfall location for the well is an unnamed tributary to Beaverdam Creek. FDA is responsible for reporting when toxic pollutant levels (that are not specifically limited by the permit) have been discharged in excess of notification levels (MDE, 2020).

4.4.3 How Would the Master Plan Affect Groundwater and Hydrology?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Ongoing projects at the MRC are not expected to intercept the groundwater table or cause potential groundwater contamination. There would be no increase in impervious surface as a result of these projects that would reduce groundwater recharge at the site. Groundwater intrusion at the MOD 1 building is managed sufficiently by a sump system (personal communication, 2021a). Therefore, there would be no impacts to groundwater under the No-Action Alternative, and no additional impacts to facilities at the MRC as a result of groundwater intrusion.

Alternatives A, B, and C (Action Alternatives)

Demolition of buildings would not directly impact groundwater under the Action Alternatives. Construction of the proposed office buildings and parking garages could intercept the groundwater table resulting in minor, short-term, adverse impacts. If the water table is intercepted, it may result in a release of groundwater and a reduction in groundwater levels; however, it would not affect the overall groundwater table in the region. There would be the potential for intrusion of groundwater from the groundwater table into the underground areas of the buildings which could affect building operations. With implementation of appropriate building design and construction as described in Section 4.3.4, there would be minor, long-term, adverse impacts to buildings from potential groundwater infiltration.

Construction would require clearing and grading for the construction of new buildings, parking garages, bike paths, walking paths, and utilities, which would increase the impervious area within at the MRC (**Table 4-8** and **Table 4-9**) (**Figure 4-10**, **Figure 4-11**, and **Figure 4-12**).

Table 4-8. Impervious Surface by Alternative

	No-Action Alternative	Alternative A	Alternative B	Alternative C
Additional Impervious Cover (Acres [ac])	0.0	9.7	12.0	9.5
Existing Impervious Surface to be Removed (ac)	0.0	6.9	6.4	4.7
Net Increase of Impervious Surface	0.0	2.8	5.6	4.8
Total Impervious Cover (ac)	19.7	22.5	25.3	24.4
Percentage Increase for the Entire MRC	0.0%	1.4%	2.8%	2.4%
Total Percentage of Impervious Surface	<10%	11.4%	12.8%	12.4%

Table 4-9. Total Impervious Areas within the Study Area by Alternative

	Structures (ac)	Pedestrian Paths/Elevated Boardwalks (ac)	Roads/Parking (ac)	Total (ac)
Alternative A	6.6	1.6	4.7	12.9
Alternative B	8.2	1.4	5.2	14.8
Alternative C	6.9	1.4	6.1	14.4

Increasing impervious surface at the MRC would reduce the available area for groundwater recharge; however, the increase would be a small percentage of the impervious surfaces in the Upper Beaverdam Creek River Watershed and would not noticeably affect the overall groundwater recharge within the subwatershed. The Action Alternatives would include the installation of landscaped areas and reforestation that would provide pervious surface within the MRC (see Section 4.7.4).

The Action Alternatives would result in minor, long-term, 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.

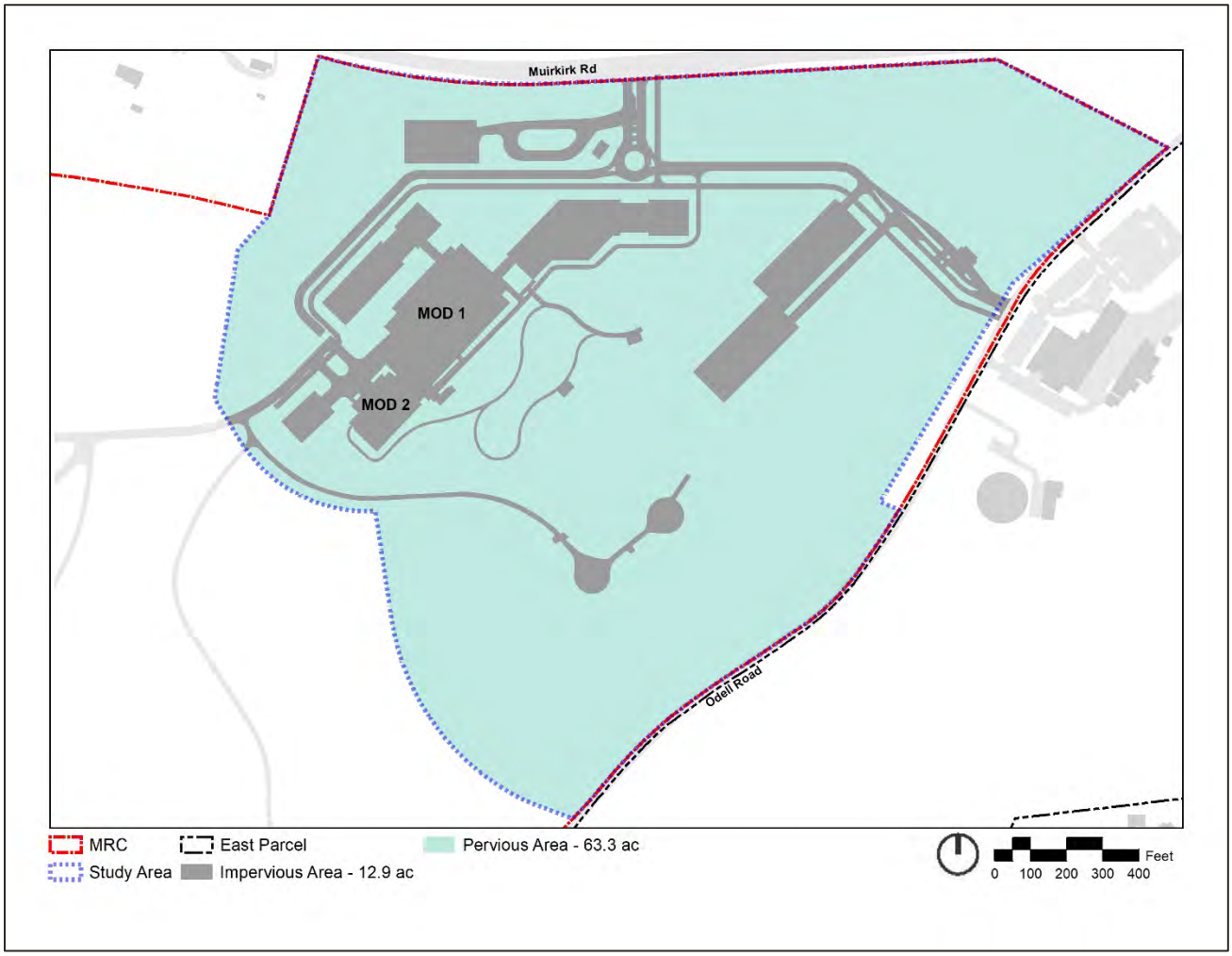


Figure 4-10. Pervious and Impervious Areas - Alternative A Compact Campus

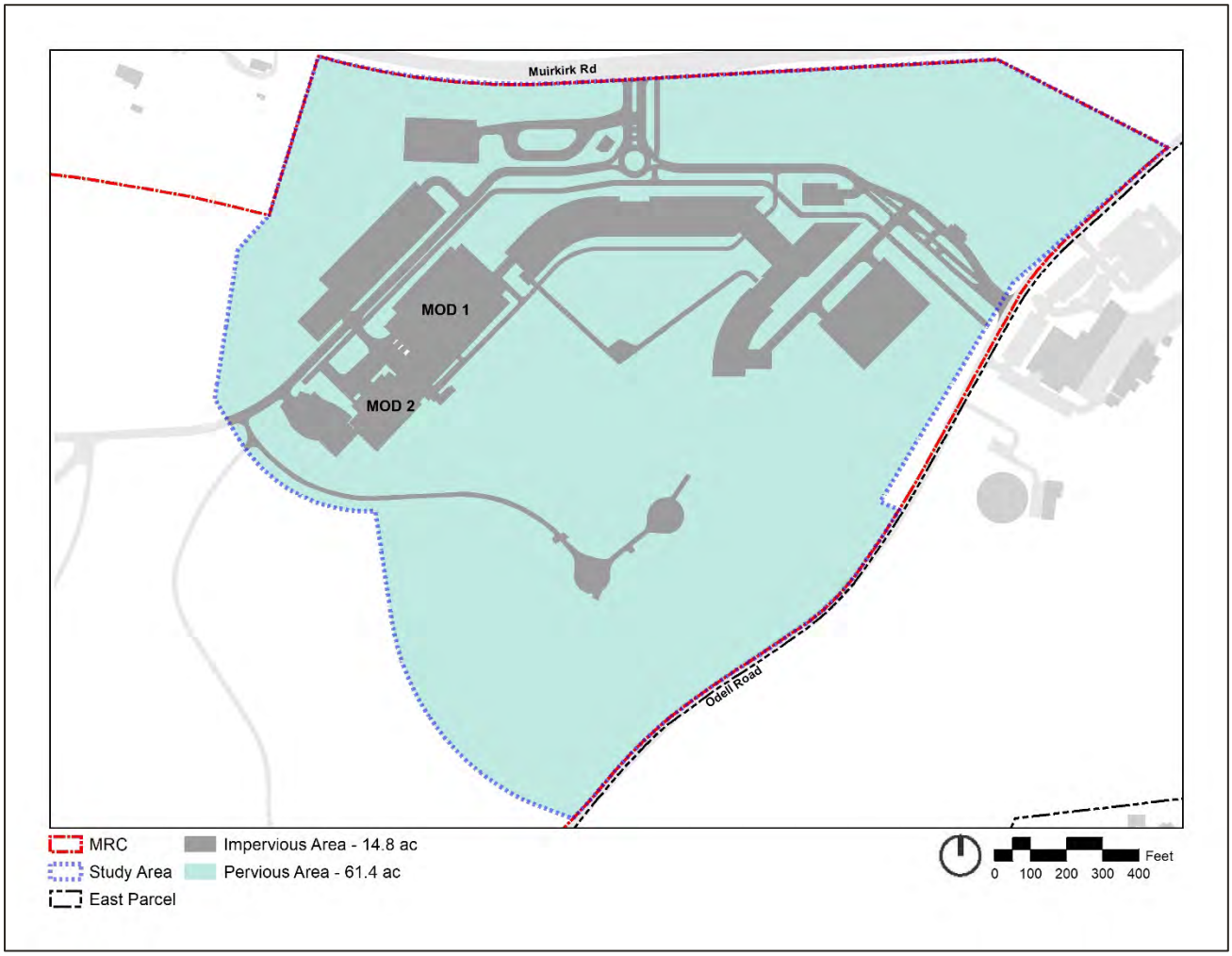


Figure 4-11. Pervious and Impervious Areas - Alternative B Dual Campus

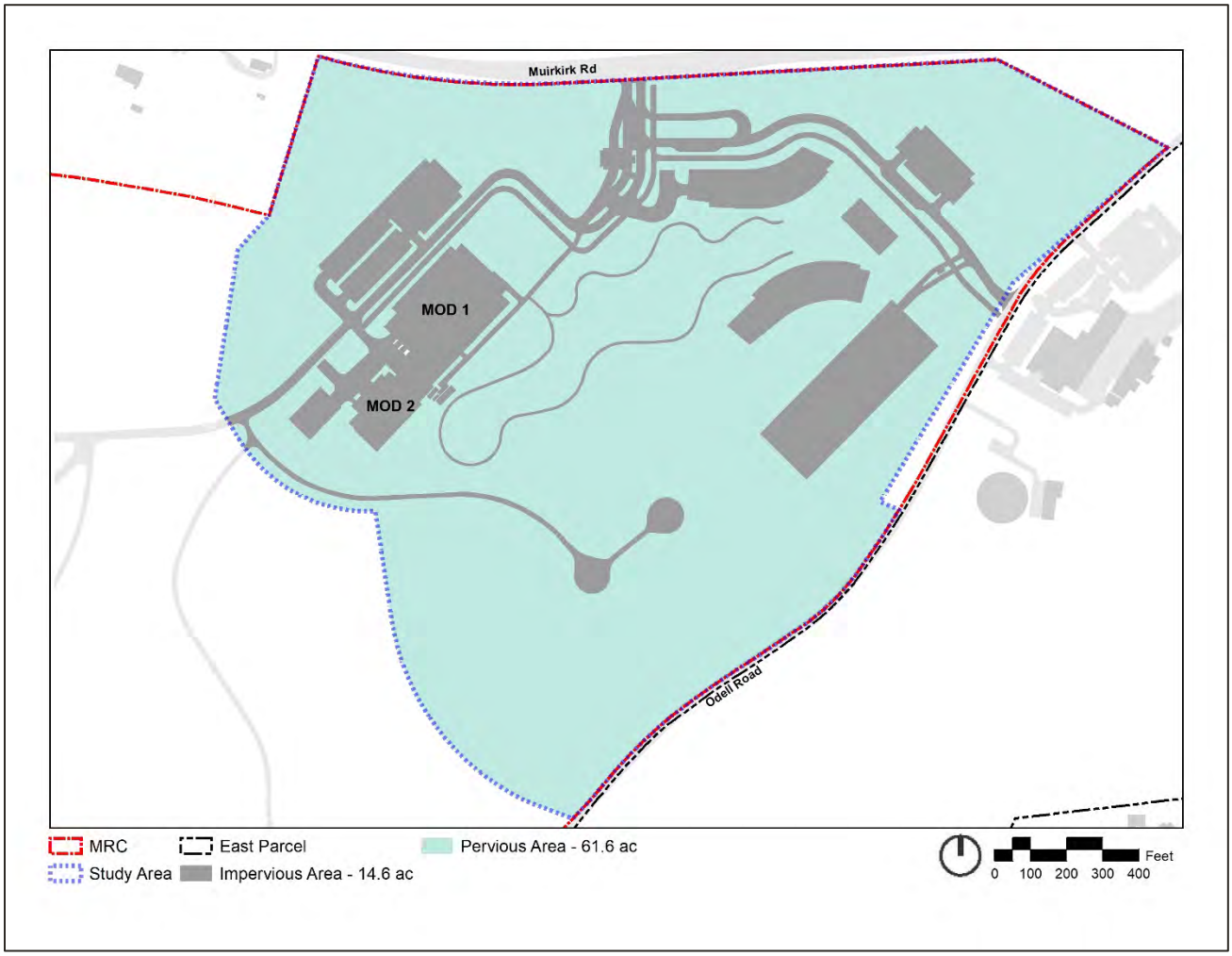


Figure 4-12. Pervious and Impervious Areas - Alternative C Northeast Campus

4.4.4 What Measures Would Be Taken To Protect Groundwater?

Under the Action Alternatives, the increase in impervious area could be mitigated with the use of infiltration devices. Infiltration devices capture stormwater before it flows into storm sewers or streams and allow it to soak into the ground. See Section 4.6.4 for additional information on stormwater quality and quantity control measures that would occur.

Several of the proposed buildings under the Action Alternatives would be partially below ground. The underground portions of these buildings could reach a zone of 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.

4.5 WATER RESOURCES

4.5.1 Assessment Methodology

Impacts to water resources, including wetlands and streams were analyzed based on the characteristics and current conditions of the study area in comparison with site conditions to be expected following construction. The locations of wetlands, wetland buffers, and streams in relation to proposed construction; and changes in impervious surfaces were assessed.

The impact thresholds for surface water are provided in **Table 4-10**.

Table 4-10. Impact Intensity Thresholds for Water Resources

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes to water quality of streams or wetlands from construction related activities Non-discernable changes to stream stability or aquatic habitats from stormwater runoff from construction related activities	Slight, but detectable impacts to water quality from construction-related activities or operation of facilities Slight, but detectable stream instability or degradation from stormwater runoff from construction related activities or from increases in impervious surface	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 Severe stream instability or degradation from increased volumes of stormwater runoff from construction related activities or from increases in impervious surface
Geographic Context	Localized (i.e., confined to the project sites)	Localized (i.e., low probability of impacts to the greater watershed)	Localized (i.e., confined to the project sites) with moderate 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	Permanent impacts after construction

4.5.2 What Streams and Wetlands Are Located on the MRC?

The MRC is within the Anacostia River Watershed (MD DNR 8-digit Watershed 02140205) and more specifically within the Upper Beaverdam Creek Watershed (MD DNR 12-digit Watershed 021402050823), which is a Tier II watershed.[2]

Three natural stream valleys originate in the north, northwest, and west areas of the campus and run south and west to the low point on Odell Road in the south. A wooded riparian area is maintained along each of these streams. Several small natural water bodies are located along the stream valleys, and three large ponds created by former gravel pits occupy the western edge of the campus.

Field investigations were conducted in October and November 2020 to determine the presence, extent, location, and classification of any waters of the U.S. (WUS), including streams and wetlands, or waters of the State located within or adjacent to the MRC. Perennial and intermittent waterways were delineated, and wetlands were delineated following the procedures detailed in the *Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0* (USACE, 2010), and all subsequent guidance and clarifications. A total of five streams (WUS1 through 5) and 11 wetlands (WET1 through WET11) were identified. The locations of the waterways and wetlands identified in the field and their associated buffers are described below and shown on **Figure 4-13**. **Table 4-11** provides a summary of the streams delineated in the field, and **Table 4-12** provides a summary of the wetlands.

Table 4-11. Streams on the MRC

Stream ID	Name	Classification	8-digit Watershed ID	Length Flagged (lf)
WUS1	Unnamed Tributary	Intermittent	Anacostia River	158
WUS2	Unnamed Tributary	Intermittent	Anacostia River	47
WUS3	Unnamed Tributary	Intermittent	Anacostia River	115
WUS4	Unnamed Tributary	Intermittent	Anacostia River	221
WUS4	Unnamed Tributary	Perennial	Anacostia River	704
WUS5	Unnamed Tributary	Intermittent	Anacostia River	140

[2] Tier II waters are high quality and better than the minimum water quality requirements (MDE, 2021b). As such, these waters are afforded additional protections under Federal and state antidegradation regulations (40 CFR §131.12 and COMAR 26.08.02.04, respectively).

Table 4-12. Wetlands on the MRC

Stream ID	Classification	8-digit Watershed	Area Flagged (sf)	Continues Outside Study Area?
WET1	PFO	Anacostia River	7,441	No
WET2	PFO	Anacostia River	3,292	Yes
WET3	PFO	Anacostia River	16,542	Yes
WET4	POW	Anacostia River	151	Yes
WET4	PFO	Anacostia River	11,707	No
WET5	PFO	Anacostia River	19	No
WET6	PFO	Anacostia River	3,393	No
WET7	PFO	Anacostia River	13,523	Yes
WET8	POW	Anacostia River	9,024	Yes
WET9	PFO	Anacostia River	26,096	Yes
WET9	POW	Anacostia River	5,212	Yes
WET9	PEM	Anacostia River	2,476	No
WET10	PFO	Anacostia River	10,027	Yes
WET11	PFO	Anacostia River	26,628	No

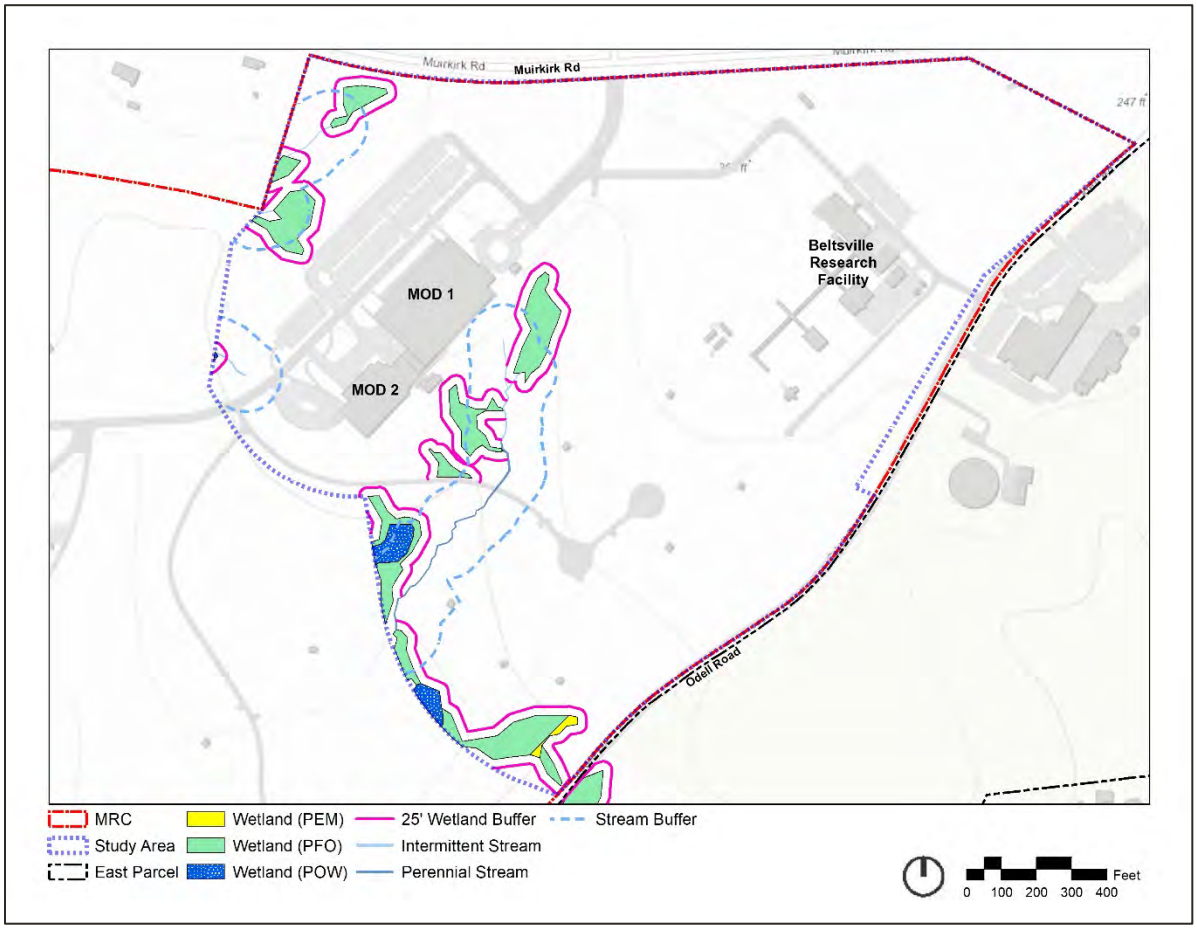


Figure 4-13. Existing Waterways and Wetlands

4.5.3 How Would Streams and Wetlands Be Affected by the Project?

No-Action Alternative

Under the No-Action Alternative, no site grading, construction of buildings, pedestrian walkways, elevated boardwalks, roads, and parking garages would occur; therefore, no wetlands or stream systems on the MRC would be impacted. The ongoing projects that are occurring at the MRC would not impact waterways or wetlands or streams.

Alternatives A, B and C (Action Alternatives)

Under the Action Alternatives, vegetation clearing, site grading, and other construction activities would impact water resources. Construction activities would temporarily impact 0.17 acres of wetlands, 0.07 acres of wetland buffers, and 246 lf of streams under Alternative A; 0.06 acres of wetlands and 0.07 acres of wetland buffers under Alternative B; and 0.17 acres of wetlands, 0.18 acres of wetland buffers, and 68 lf of streams under Alternative C (**Table 4-13** and **Figure 4-15** through **Figure 4-17**). Because Alternatives A and C have greater than 0.1 acres of temporary wetland impacts, construction under these alternatives would result in a moderate, short-term, adverse impact. Alternative B would result in minor, short-term, adverse impacts. During construction, BMPs such as silt fence, erosion matting, sediment traps, sediment basins, and revegetation of exposed sediment would be implemented to minimize soil erosion and stormwater pollution into adjacent streams or wetlands. Stormwater management plans and erosion and sediment control plans

would be prepared and submitted to MDE for review and approval prior to construction. Authorization under Section 404/ 401 of the CWA would be required for temporary impacts to wetlands, wetland buffers, and waterways and would require authorization under Maryland's Wetland and Waterway Regulations.

After construction is complete, Alternative A would result in permanent impacts to 0.05 acres of wetlands and wetland buffers and 246 lf of streams; Alternative B would result in impacts to 0.03 acres of wetlands and 0.01 acres of wetland buffers; and Alternative C would result in impacts to 0.05 acres of wetlands and 0.04 acres of wetland buffers and 68 lf of streams (**Table 4-13** and **Figure 4-15** through **Figure 4-17**). These impacts would be created by the addition of the elevated boardwalks under the Action Alternatives. The elevated boardwalks proposed under Alternatives A and C would meander through the forested area between the MOD 1 and MOD 2 buildings and the BRF (**Figure 4-14**). The permanent impacts from the addition of an elevated boardwalk in Alternative A would be moderate, long-term, and adverse, and minor, long-term, and adverse in Alternative C. This is a result of piles driven into the wetlands and wetland buffers. The elevated boardwalk would be constructed above any water resources, thereby limiting the long-term impacts. The elevated boardwalk under Alternative B would result in negligible, long-term, adverse impacts. Authorization under Section 404/ 401 of the CWA would be required for permanent impacts to wetlands and waterways. Permanent impacts to wetlands, wetland buffers, and waterways would require authorization under Maryland's Wetlands and Waterways Regulations.

Figure 4-14. Example of Proposed Elevated Boardwalk

All disturbed areas where no buildings, walkways, roads, or parking garages would be located would be permanently revegetated and stabilized following construction to prevent further erosion of soils and runoff into streams and wetlands. Streams and wetlands would be restored to pre-construction conditions to the maximum extent practicable following construction, including contour and elevation restoration, revegetation with native species, streambank stabilization, and stream substrate replacement.

Implementation of the Master Plan would increase the amount of impervious surface at the MRC and increase the amount and temperature of stormwater runoff, which could increase peak discharges, temperatures, and pollutant load in the receiving stream(s) or wetland(s), thereby reducing water quality and degrading the biological integrity of streams and wetlands both on and offsite. These long-term, adverse impacts would be minimized using BMPs, such as silt fencing, stabilized construction entrances, erosion matting, and sediment traps, and vegetative stabilizations and appropriate stormwater management.

Table 4-13. Impact for Wetlands, Wetland Buffers, and Streams

	Wetland Impacts (ac)		Wetland Buffer Impacts (ac)		Streams (WUS) (lf)	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Alternative A	0.17	0.05	0.07	0.05	246	246
Alternative B	0.06	0.03	0.07	0.01	0	0
Alternative C	0.17	0.05	0.18	0.04	68	68

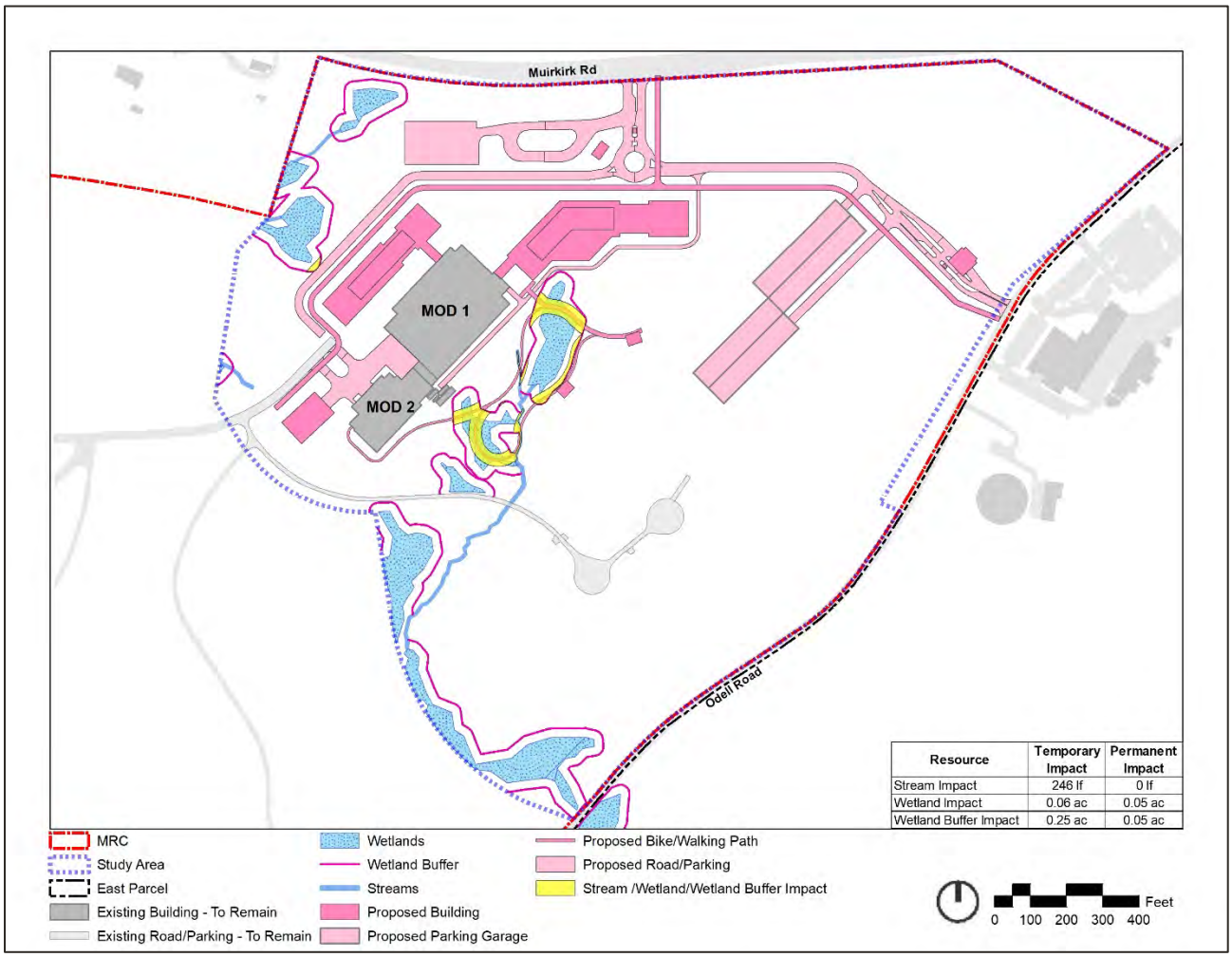


Figure 4-15. Water Resource Impacts Under Alternative A

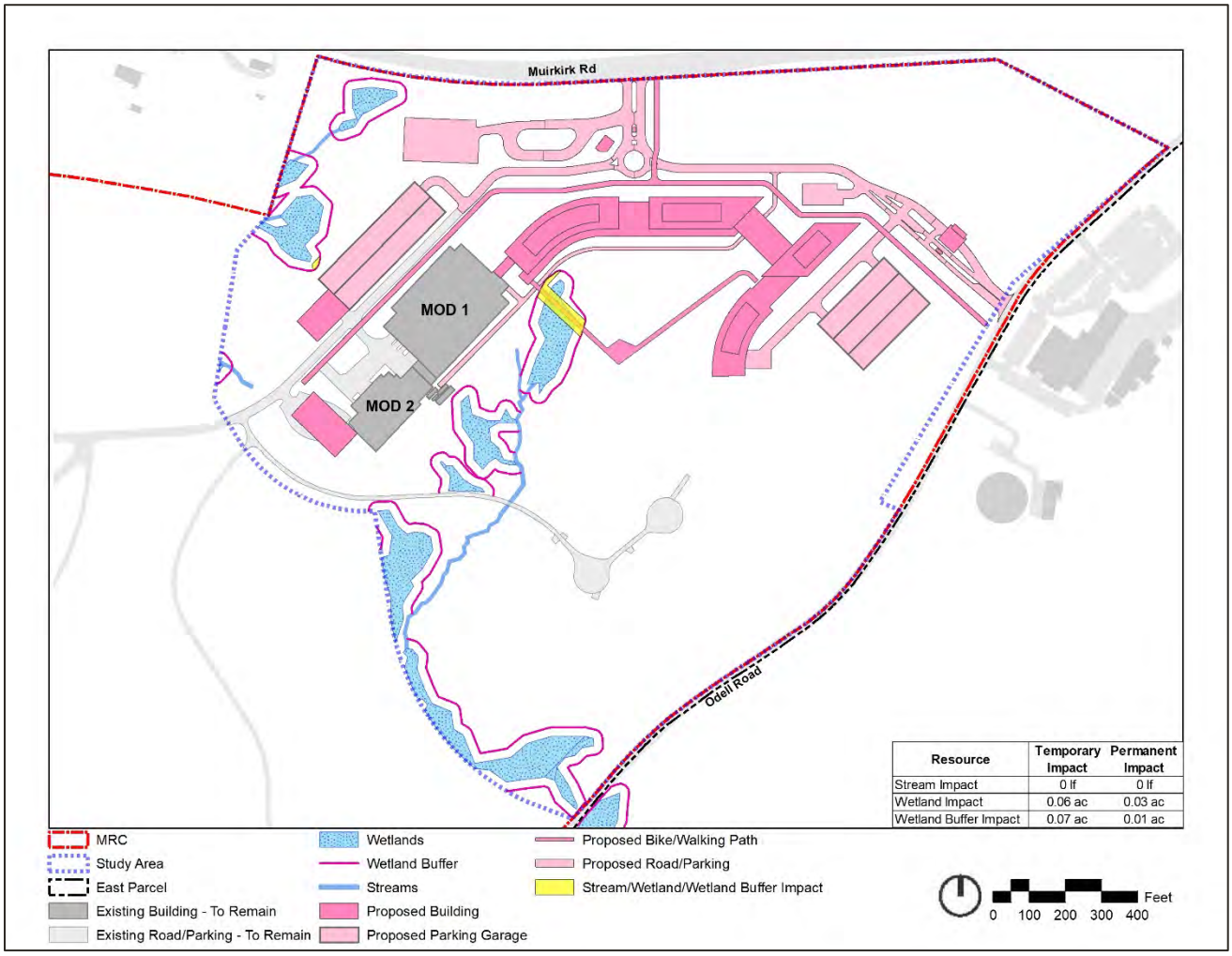


Figure 4-16. Water Resource Impacts Under Alternative B

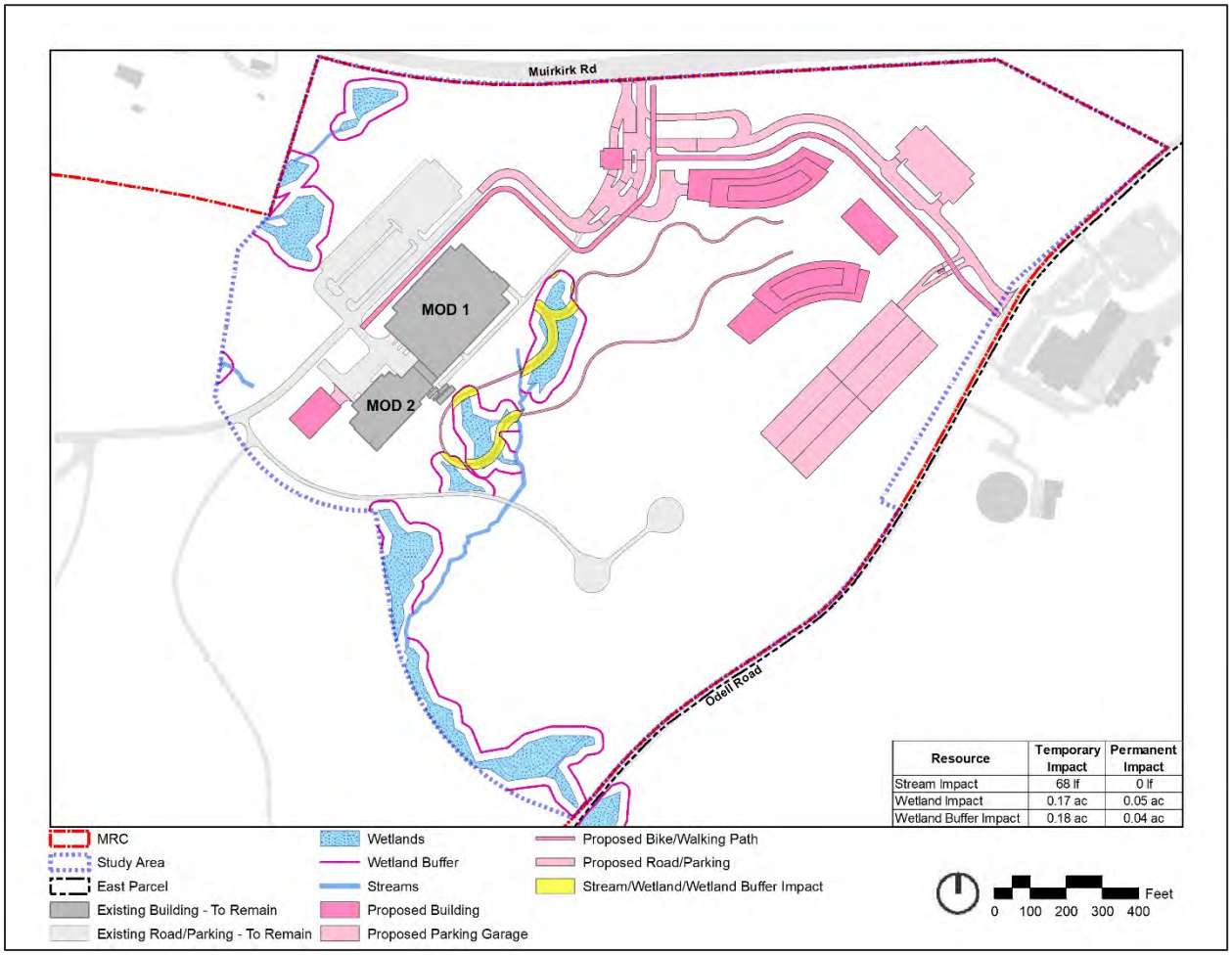


Figure 4-17. Water Resource Impacts Under Alternative C

4.5.4 What Measures Would Be Taken To Protect Streams And Wetlands?

During construction, BMPs such as silt fence, erosion matting, sediment traps, sediment basins, and revegetation of exposed sediment would be implemented to minimize soil erosion and stormwater pollution. Stormwater management plans and erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction of each phase. All disturbed areas where no buildings, walkways, roads, or parking garages would be located would be permanently revegetated and stabilized following construction to prevent further erosion of soils and runoff into streams and wetlands. Streams and wetlands would be restored to pre-construction conditions to the maximum extent practicable following construction, including contour and elevation restoration, revegetation with native species, streambank stabilization, and stream substrate replacement.

Authorization under Section 404/401 of the CWA would be required for permanent and temporary impacts to wetlands and waterways. Temporary and permanent impacts to wetlands, wetland buffers, and waterways would require authorization under Maryland's Wetland and Waterway Regulations. Compensatory mitigation is required for permanent wetland impacts of 5,000 square feet (sf) (0.11 ac.) or greater and 200 lf of stream or more.

Additional information from stormwater impacts to streams and wetlands can be found in Section 4.6.3.

4.6 STORMWATER

4.6.1 Assessment Methodology

Impacts from stormwater were analyzed based on the characteristics and current conditions of the study area in comparison with site conditions to be expected following construction. The location of stormwater features 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 4-14**.

Table 4-14. Impact Intensity Thresholds for Stormwater

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	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	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Severe stream instability or degradation from increased volumes of stormwater runoff from construction related activities or from increases in impervious surface
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

4.6.2 What Stormwater Practices are Located at the MRC?

There are four existing detention ponds on the MRC that provide stormwater quantity control. One of the ponds is within the study area (**Figure 4-18**). The ponds were built prior to MDE stormwater management requirements, so there is no indication that the ponds were built with the intention to manage stormwater quality. It is possible that these ponds could be retrofitted to provide some water quality benefit to the site. Within the campus there are building rooftops that are disconnected and discharge stormwater into forested areas, which then provide water quality treatment. There are also some roads that sheet-flow directly onto vegetated areas that provide water quality treatment.

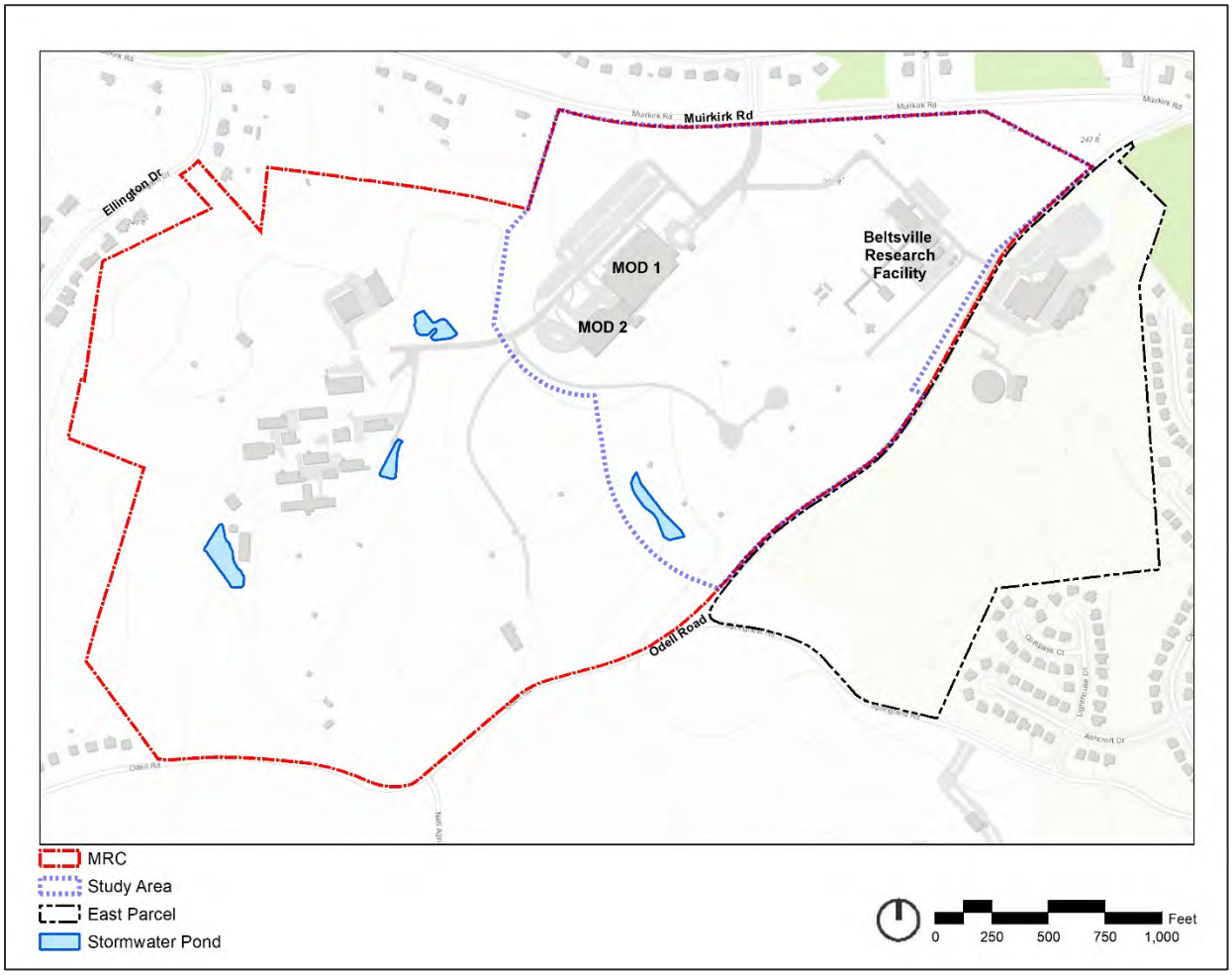


Figure 4-18. Existing Stormwater Ponds Within the Study Area

Currently, the MRC consists of less than 10 percent impervious land cover, including buildings, parking lots, and roadways. Therefore, a NPDES Municipal Separate Stormwater System (MS4) permit waiver was granted by MDE and restoration efforts have not been required. Any new development at the MRC would increase the impervious area above the 10 percent requirement. The campus would then be subject to NPDES MS4 permit requirements, including providing water quality treatment for 20 percent of the existing impervious areas around the MRC site, outside the limits of the new development.

The MRC is in the Upper Beaverdam Creek Watershed, which is categorized as a Tier II watershed. Beaverdam Creek is a tributary to the Anacostia River, which is an impaired stream and has an USEPA Total Maximum Daily Load[3] (TMDL) for sediment. As of 2018, the MRC became subject to NPDES State and Federal Small MS4 Discharge Permit (General Permit) requirements due to the campus exceeding the permit's five-acre coverage threshold. The emphasis of this permit is to help achieve the Chesapeake Bay TMDL goals established under the authority of the CWA. The permit requirements include implementation of the following:

[3] A TMDL establishes a target for the total load of pollutant the water body can assimilate.

- Public education and outreach,
- Public involvement and participation,
- Illicit discharge detection and elimination,
- Construction site stormwater runoff control (i.e., erosion and sediment control),
- Post-construction runoff control (i.e., stormwater management),
- Pollution prevention and good housekeeping, and
- Development of a baseline impervious area assessment.

Prince George's County Required Quantity Control

In 2019, Prince George's County issued requirements that 100-year stormwater quantity control for development in the County's 100-year flood control map would be required unless otherwise determined by the Prince George's County DPIE on a case-by-case basis (DPIE, 2019). While the MRC is not located within the FEMA mapped 100- and 500-year floodplain, it is within the area identified on the County's 100-year flood control map and is located at the outer edge of the Anacostia Watershed drainage basin. While there are known flooding issues along the Anacostia River and many of its more urban tributaries, these issues are far downstream from the MRC.

4.6.3 How Would the Master Plan Affect Stormwater Management at the MRC?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Stormwater quantity would continue to be provided by the four existing ponds. No additional impervious areas would be constructed. Stormwater would continue to be discharged into forested areas. Ongoing projects at the MRC are not expected to impact stormwater management. Drainage improvements proposed along the North Loop Road would minimize stormwater runoff.

Alternative A: Compact Campus

Alternative A would add 9.7 acres of impervious surface from the addition of proposed buildings, roads, parking structures, bike paths, walking paths, and utilities (**Table 4-15**). This number includes 2.4 acres of buildings that could have green roofs. Alternative A would also remove 6.9 acres of existing impervious surface, mainly through the reduction of roads and surface parking, resulting in a net increase of 2.8 acres of impervious cover. This represents a 1.4 percent increase in impervious surface on the MRC, for a total of 11.4 percent total impervious cover, which includes 6.6 acres of structures, 1.6 acres of pedestrian paths, and 4.7 acres of roads/parking within the study area (**Table 4-16**). This increase in impervious surfaces could result in increased stormwater flows, soil erosion, and water quality degradation, resulting in a minor, long-term, adverse impacts. Implementation of permanent stormwater controls, as described in the mitigation measures section below, would minimize stormwater runoff and potential water quality degradation of the stream from implementation of the Master Plan. Specific stormwater controls may be needed to reduce runoff potential for slope failure as well as water infiltration into buildings (**Figure 4-19**). With mitigation, the impacts to stormwater from construction activities would be slightly detectible; therefore, Alternative A would result in minor, short-term, adverse impacts from stormwater.

Permanent BMPs and Environmental Site Design (ESD) strategies are proposed to reduce the amount of stormwater, sediments, and pollutants entering streams and wetlands. The proposed MD ESD treatment area includes 50 percent of green roofs (1.2 acres) and 36,500 sf of micro-bioretention and bioswales. The increase in impervious surface that would occur under Alternative A would result in a minor, long-term, adverse impact.

Table 4-15. Impervious Surface by Alternative

	No-Action Alternative	Alternative A	Alternative B	Alternative C
Additional Impervious Cover (Acres [Ac])	0.0	9.7	12.0	9.5
Existing Impervious Surface to be Removed (Ac)	0.0	6.9	6.4	4.7
Net Increase of Impervious Surface (Ac)	0.0	2.8	5.6	4.8
Total Impervious Cover for entire MRC (Ac)	19.7	22.5	25.3	24.4
Percentage Increase for the Entire MRC	0.0%	1.4%	2.8%	2.4%
Total Percentage of Impervious Surface for Entire MRC	<10%	11.4%	12.8%	12.4%

Table 4-16. Impervious Surface within the Study Area by Alternative

	Structures (Ac)	Pedestrian Paths/Elevated Boardwalks (Ac)	Roads/Parking (Ac)	Total (Ac)
Alternative A	6.6	1.6	4.7	12.9
Alternative B	8.2	1.4	5.2	14.8
Alternative C	6.9	1.4	6.1	14.4

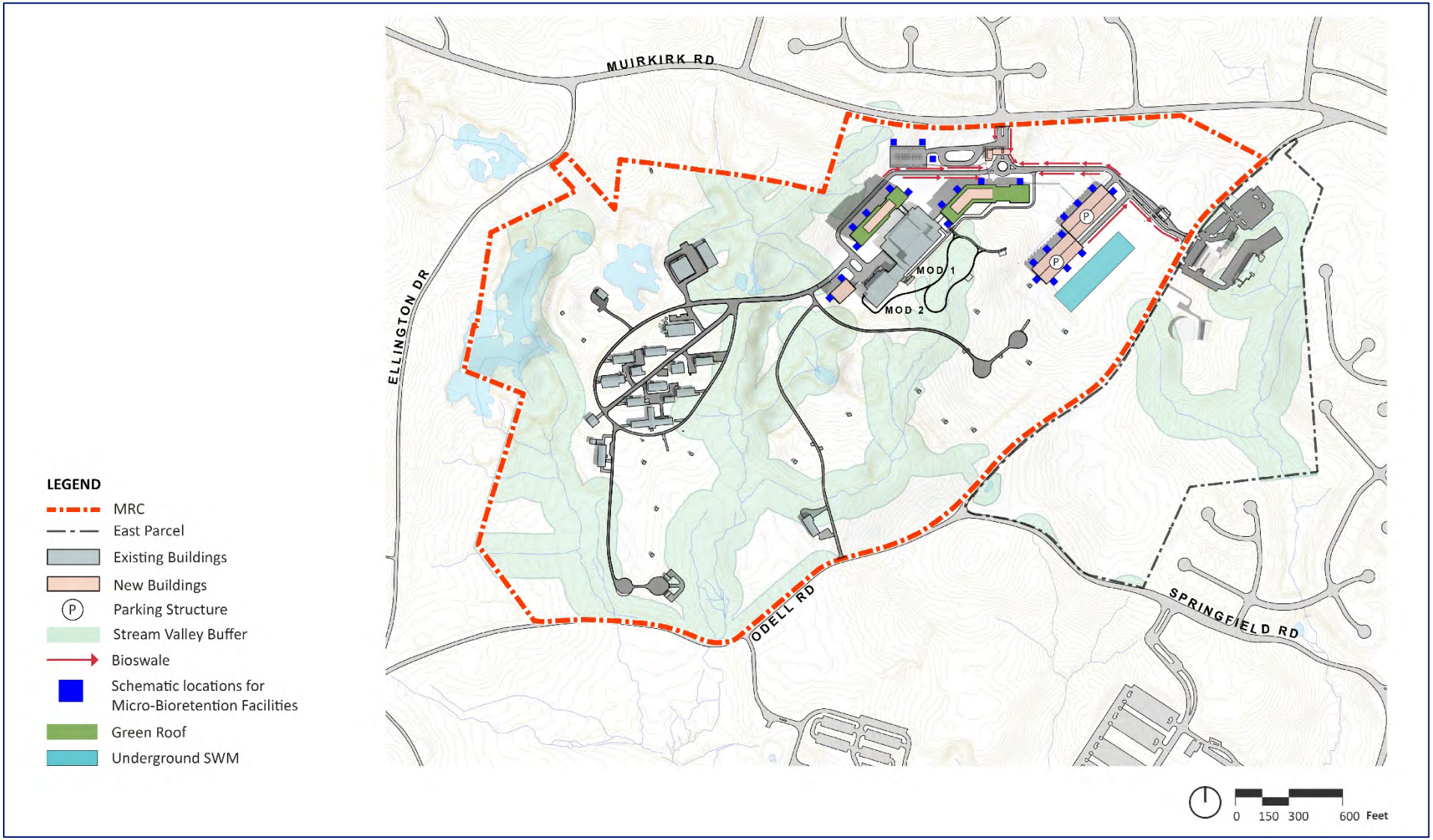


Figure 4-19. Proposed Stormwater Management Under Alternative A

Alternative B: Dual Campus

Alternative B would add 12.0 acres of impervious surface due to the additional proposed buildings, roads, and parking structures (**Table 4-15**). However, this number includes 3.7 acres of buildings that could have green roofs. Alternative B would also remove 6.4 acres of existing impervious surface, mainly through the reduction of roads and surface parking, resulting in a net increase of 5.6 acres of cover. This represents a 2.8 percent increase in impervious surface on the MRC, for a total of 12.8 percent impervious cover, which includes 8.2 acres of structures, 1.4 acres of pedestrian paths, and 5.2 acres of roads/parking within the study area (**Table 4-16**). This increase in impervious surface would result in increased stormwater flows, increasing the potential for soil erosion, and water quality degradation. The impact would be minor, long-term, and adverse. Implementation of permanent stormwater controls, as described in the mitigation measures section below, would minimize stormwater runoff and potential water quality degradation of the streams from implementation of the Master Plan. Specific stormwater controls may be needed to reduce runoff potential for slope failure as well as water infiltration into buildings (**Figure 4-20**). Therefore, with mitigation, the impacts to stormwater from construction activities would be slightly detectible; therefore, Alternative B would result in minor, short-term, adverse impacts from stormwater.

Permanent BMPs and ESD strategies are proposed to reduce the amount of stormwater, sediments, and pollutants entering streams and wetlands. The proposed MD ESD treatment area includes 50 percent of green roofs (1.9 acres) and 50,600 sf of micro-bioretention and bioswales. The increase in impervious surface that would occur under Alternative B would result in a minor, long-term, adverse impact.

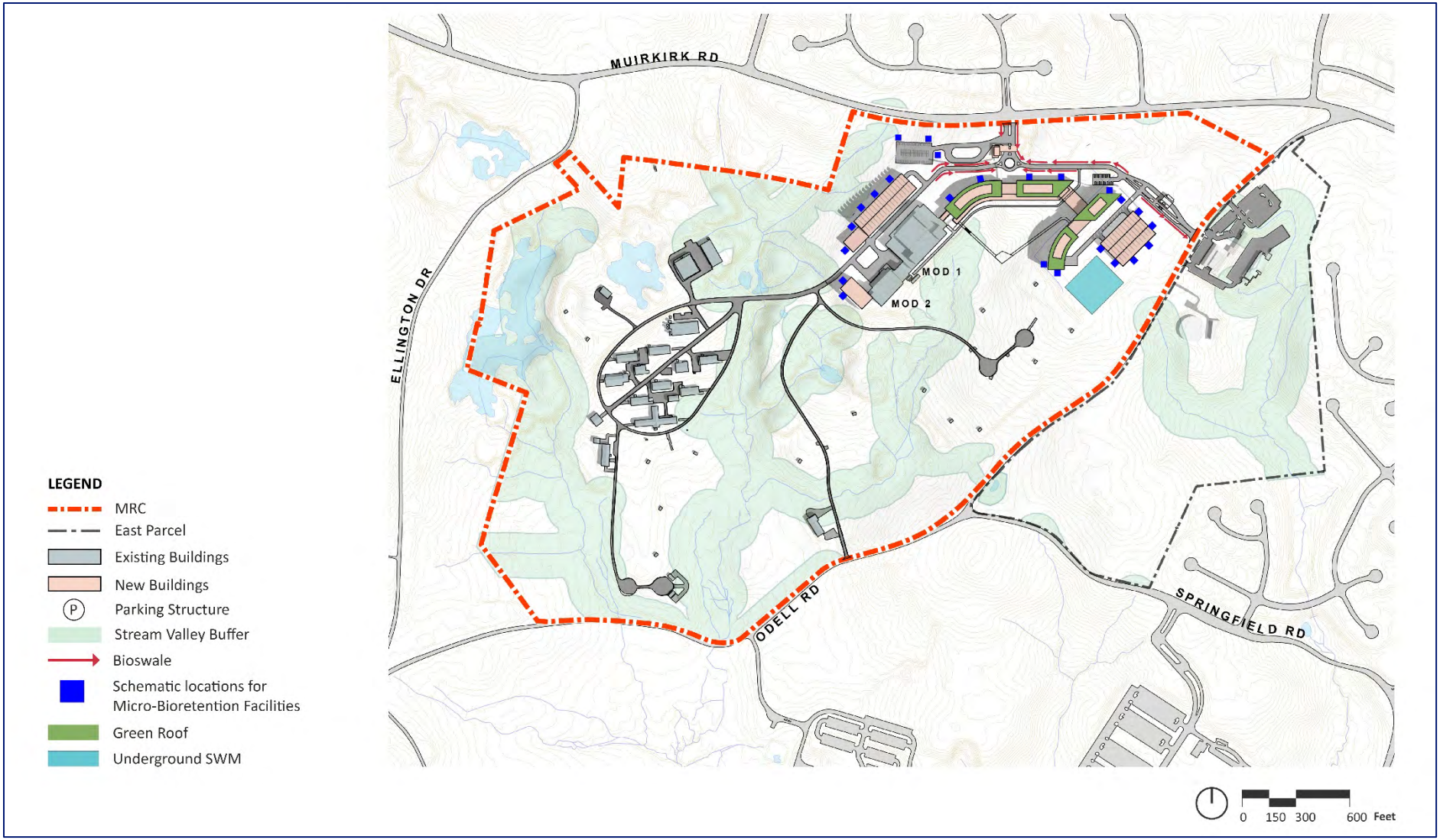


Figure 4-20. Proposed Stormwater Management Under Alternative B

Alternative C: Northeast Campus

Alternative C would add 9.5 acres of impervious surface due to the additional proposed buildings, roads, and parking structures (**Table 4-15**). However, this number includes 2.4 acres of buildings that could have green roofs. Alternative C would also remove 4.7 acres of existing impervious surface, mainly through the reduction of roads and surface parking, resulting in a net increase of 4.8 acres of impervious cover. This represents a 2.4 percent increase in impervious surface on the MRC, for a total of 12.4 percent impervious cover, which includes 6.8 acres of structures, 1.2 acres of pedestrian paths, and 6.2 acres of roads/parking within the study area (**Table 4-16**). This increase in impervious surfaces could result in increased stormwater flows, soil erosion, and water quality degradation. This would result in minor, long-term, adverse impacts. Implementation of permanent stormwater controls, as described in the mitigation measures section below, would minimize stormwater runoff and potential water quality degradation of the stream from implementation of the Master Plan. Specific stormwater controls may be needed to reduce runoff potential for slope failure as well as water infiltration into buildings (**Figure 4-21**). Therefore, with mitigation, the impacts to stormwater from construction activities would be slightly detectible; therefore, Alternative C would result in minor, short-term, adverse impacts from stormwater.

Permanent BMPs and Environmental Site Design (ESD) strategies are proposed to reduce the amount of stormwater, sediments, and pollutants entering streams and wetlands. The proposed MD ESD treatment area includes 50 percent of green roofs (1.2 acres) and 47,600 sf of micro-bioretention and bioswales. The increase in impervious surface that would occur under Alternative B would result in a minor, long-term, adverse impact.

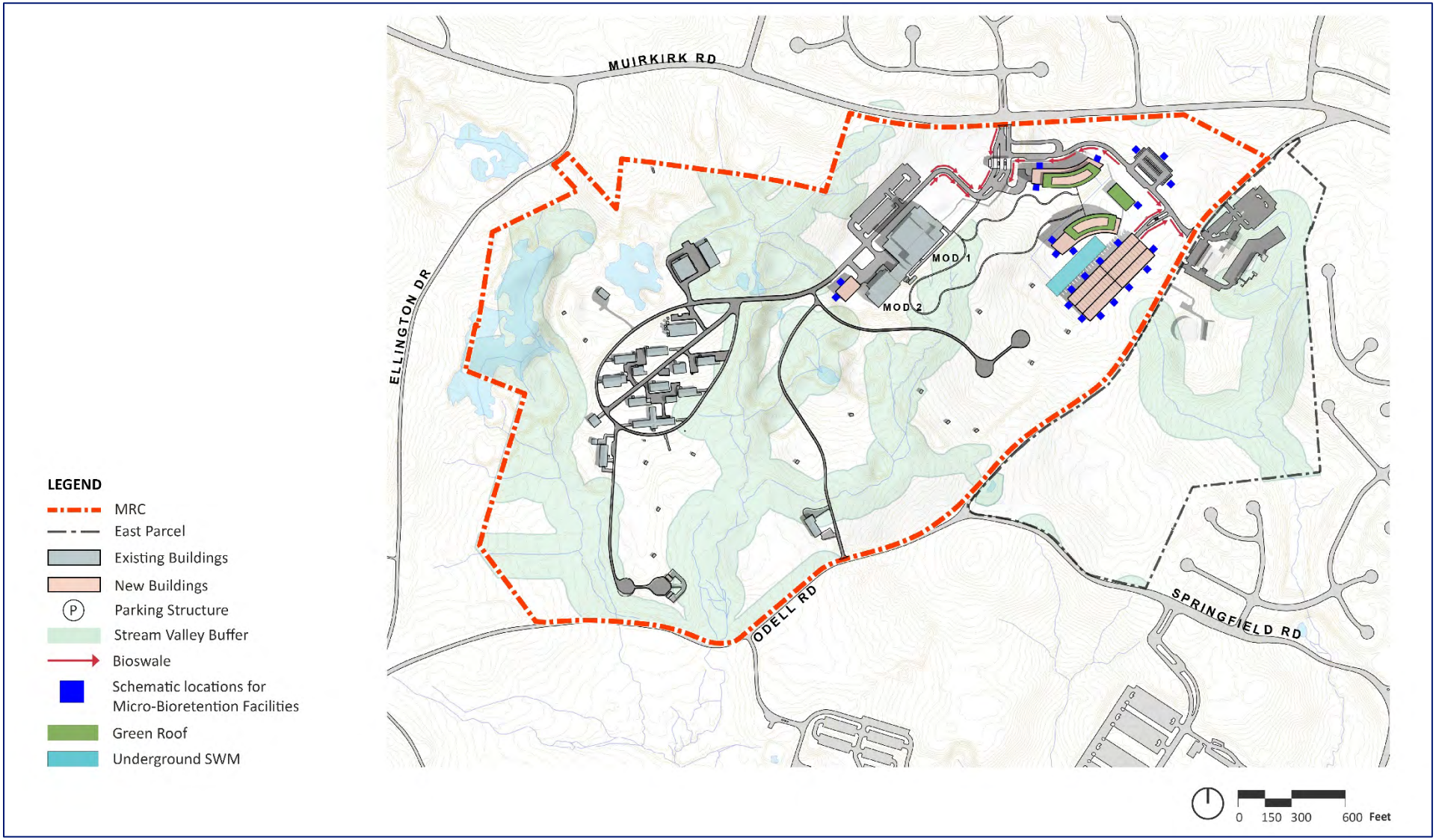


Figure 4-21. Proposed Stormwater Management Under Alternative C

4.6.4 What Types of Stormwater Quantity and Quality Control Measures Would Be Implemented

Stormwater quantity and quality control measures would be designed and implemented in accordance with the regulations, permits and guidance documents found in **Table 4-17**.

Table 4-17. Applicable Stormwater Management Regulations, Permits, and Guidance Documents

Regulation, Permit, or Guidance	Applicable Requirements
COMAR 26.17.01 Erosion and Sediment Control	Erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction. During construction, BMPs such as silt fence, erosion matting, inlet protection, sediment traps, sediment basins, and revegetation of exposed sediment would be implemented to minimize soil erosion and stormwater pollution.
COMAR 26.17.02 Stormwater Management	Stormwater management plans would be prepared and submitted to MDE for review and approval prior to construction. Within the limits of the new development, Maryland Environmental Site Design (ESD) strategies would be implemented to the maximum extent practicable (MEP). MDE will only allow a maximum of 20 acres of ground be in a disturbed condition at any time.
Maryland Standards and Specifications for Soil Erosion and Sediment Control (MDE, 2011a)	Erosion and sediment control plans would be prepared in accordance with these standards.
Maryland Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal projects (MDE, 2015)	Stormwater management plans would be prepared in accordance with these standards.
Maryland Stormwater Design Manual, Volumes I & II and Supplement 1 (MDE, 2009)	Stormwater management plans would be prepared in accordance with these standards.
Section 438 of the Energy Independence and Security Act of 2007 (EISA)	Low Impact Development (LID) strategies would be employed in accordance with the Technical Guidance on Implementing the Stormwater Runoff requirements for Federal Projects under Section 438 of the EISA.
Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under EISA 438 (EPA, 2009)	Stormwater management design would have to comply with these requirements.
NPDES General Permit for Stormwater Associated with Construction Activity, administered by MDE	Once plan approval is received from MDE, a Notice of Intent (NOI) must be filed, and this general permit would be obtained from MDE.

Regulation, Permit, or Guidance	Applicable Requirements
NPDES General Permit for Discharges from State and Federal Small Municipal Separate Storm Sewer Systems (MS4s), administered by MDE	Permit requires the development and implementation of an impervious area restoration work plan on sites where impervious area makes up 10 percent of the site or more. Expanded campus would be subject to complying with the permit's many requirements including providing water quality treatment for 20% of the existing untreated impervious areas around the MRC site, outside the limits of the new development.
Prince George's County "Techno-Gram" (002-2019), 2019	100-year stormwater quantity control would be required, unless otherwise determined by the Prince George's County Department of Permitting, Inspections and Enforcement (DPIE) on a case-by-case basis.
NCPC's Federal Elements of the Comprehensive Plan for the National Capital, SECTION C: Policies Related to Water Resources and Stormwater Management	Federal government should reduce the amount of stormwater that flows into the sewer system and rivers; clean the stormwater that does flow into streams and rivers; increase regional infiltration rates and aquifer recharge; and reduce water consumption by reusing stormwater.

Per the MDE NPDES MS4 permit, sites where impervious area makes up 10 percent of the site or more, the development and implementation of an impervious area restoration work plan is required. The MRC would be required to reduce or treat 20 percent of its existing impervious area, outside of the limits of the new development.

Within the limits of the new development, State of Maryland ESD strategies would be implemented to the maximum extent practicable and structural practices would be used only where necessary. Once ESD requirements are met, the project would also be in compliance with water quality volume, groundwater recharge, and channel protection volume requirements. Leadership in Energy & Environmental Design (LEED®) and the Sustainable Sites Initiative™ (SITES™) points for stormwater management would be pursued for each building. Low Impact Development (LID) strategies would be employed in accordance with the Technical Guidance on Implementing the Stormwater Runoff requirements for Federal Projects under Section 438 of the EISA. LID and ESD methods both utilize the same BMPs; however, slightly different calculations are used during design in order to verify compliance with standards.

Strategies to incorporate stormwater management into the site as amenities and spatial drivers would be pursued, as well as exploring the potential to integrate the design into the natural systems at the MRC. Stormwater runoff would be conveyed to new non-structural ESD/LID/BMP facilities. Once ESD measures have been implemented to the maximum extent practicable, then structural BMP facilities may be utilized. Stormwater management would mostly be provided in the form of bioswales along the roads, micro-bioretention facilities scattered throughout the site, and walled micro-bioretention areas around the garages, in areas where standard micro-bioretention would not work. Pervious pavements may also be utilized in some locations such as fire lanes, sidewalks, paths, and other hardscape areas. Steep slopes adjacent to the proposed development may limit the use of micro-bioretention and structural BMPs may have to be utilized instead.

Office buildings would maximize the use of rooftop rainwater harvesting as well as green roofs. A green roof with 4-inch media, for example, provides 38 percent of the required MDE Environmental Site Design Volume (ESDv). It is recommended that rooftop rainwater capture and reuse be utilized where feasible. Typical reuse methods are toilet flushing and cooling tower makeup water. FDA may have other possible uses for captured rainwater onsite. Roadways would maximize use of bioswales. Pervious pavements may also be utilities in some locations as fire lanes, sidewalks, paths, and other hardscape areas.

The stormwater management facilities would drain to new storm pipe systems that would in turn outfall to existing tributaries of Beaverdam Creek. Outfalls would be required to be non-erosive. Storm drain piping would be reinforced concrete (RCP) or high-density polyethylene (HDPE) pipe. Due to space limitations, it is anticipated that any necessary quantity control would be provided by underground stormwater management. This underground facility could be provided utilizing one of the following:

- Pipes (Corrugated Metal Pipe (CMP) or HDPE)
- Perforated pipes (CMP or HDPE) in a gravel bed
- Box culverts
- Concrete vaults
- Many different available manufactured products

A NOI would be filed and NPDES General Permits for construction would be required for all new work. During construction, BMPs such as silt fence, erosion matting, inlet protection, sediment traps, sediment basins, and revegetation of exposed sediment would be implemented to minimize soil erosion and stormwater pollution. Stormwater management plans and sediment and erosion control plans would be prepared for all the new work on site and submitted to MDE for review and approval prior to the construction of each phase. Per MDE requirements only 20 acres of ground would be disturbed at any time. All disturbed areas would be permanently revegetated and stabilized following construction. Temporary impacts to streams and wetlands would be restored to pre-construction conditions to the maximum extent practicable following construction, including contour and elevation restoration, revegetation with native species, streambank stabilization, and stream substrate replacement.

A downstream analysis would be required to determine whether Overbank Flood Protection (10-year storm) or Extreme Flood Protection (100-year storm) needs to be addressed. Initial research and analysis indicate that providing attenuation at the MRC would not provide benefits as far downstream as the current areas of flooding.

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.

4.7 VEGETATION

4.7.1 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 trees, defined as trees with a

diameter at breast height of 30 inches or more, and existing forested and landscaped areas. Trees, woodlands, and wildlife habitat are protected by the *Prince George's County Woodland* and *Wildlife Conservation Ordinance* (WCO), the State of Maryland's *Forest Conservation Act*, and NCPC's *Tree Preservation and Replacement Policies*. The WCO limits the clearing of trees and forest to a threshold acreage that is calculated based on zoning, property size, acreage of existing woodland, and other site-specific factors, and requires that priority areas for woodland conservation be considered during site design. Primary Management Area[4] (PMA) impacts were assessed in relation to construction activities and tree clearing throughout the site. The State of Maryland *Forest Conservation Act* identifies the amount and location of forest to be conserved and the areas to be planted with trees. NCPC prioritizes tree preservation and offers alternatives to mitigate tree canopy loss if preservation is not possible.

The impact thresholds for vegetation are provided in **Table 4-18**.

Table 4-18. Impact Intensity Thresholds for Vegetation

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes to vegetation No specimen trees would be removed Habitat levels would remain consistent with current conditions Vegetative disturbance would not result in the proliferation of invasive species Fragmentation of vegetative cover types would not occur	Vegetation removal from the sites would be slight, but detectable and would consist largely of mowed lawn areas and minimal natural habitat A small percentage of trees would be removed but most of the large trees and contiguous woodland on the site would remain with no loss of existing natural processes and ecosystem functions Establishment of invasive species that would be slight, but detectable Fragmentation of vegetative cover types would not occur	Removal of small areas of natural forest, specimen trees, or open space that is potentially major but with best practices and mitigation measures is reduced below major	Removal of natural forest or open space would be severe, resulting in a highly noticeable diminishment of existing natural processes and ecosystem functions Removal of specimen trees would result in a highly noticeable change to existing natural processes and ecosystem functions High probability to result in the proliferation of invasive species throughout the sites Fragmentation of vegetative cover types would occur that would inhibit existing natural processes and ecosystem functions

[4] A Primary Management Area (PMA) is a vegetated buffer along perennial and intermittent streams that encompasses the stream buffer, adjacent wetlands and wetland buffers, and steep slopes outside the Chesapeake Bay Critical Area Overlay Zones. If the PMA is not vegetated at the time of plan review, the planting of trees in this area is a high priority for woodland conservation (M-NCPPC, 2010a).

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 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

4.7.2 What Types of Vegetation are Located on the MRC?

Vegetation on the MRC is a mixture of large areas of dense deciduous forest (trees that lose their leaves at the end of the frost-free season) and individual shade trees, and some invasive cover. Plant communities were classified using the Anderson land-cover classification system (Anderson et al., 1976). **Table 4-19** contains plant species that were identified during field investigations within the study area. Land cover found within the MRC includes:

Urban or Built-up Land –Urban land within the MRC includes a green buffer zone, FDA development, roads, and parking lots. Landscaped areas comprise most of the vegetation within the urban and developed land of the MRC.

Mixed Forest Land – Forested areas within the MRC have a mix of deciduous trees and coniferous trees (trees that retain needles throughout the entire year). There are 57.8 acres of forest within the study area, delineated into nine forest stands. Most of the forests within the study area are defined as early mid-successional[5] (USFWS, 2014).

Throughout the MRC is a mixture of maintained grass and natural forest (**Table 4-19**). In the study area, forest stands exist along the edge of the MRC and in the area between the MOD 1 and MOD 2 buildings and the BRF. The forest stands are dominated by overstory and understory trees and typically lack herbaceous vegetation. However, the most common herbaceous species in the forest stands was greenbrier (*Smilax sp.*). The most common overstory tree species were Virginia pine (*Pinus virginiana)*, loblolly pine (*Pinus taeda)*, and chestnut oak (*Quercus montana)*. The most common understory tree species were American holly (*Ilex opaca)*, sweetgum (*Liquidambar styraciflua)*, and black gum (*Nyssa sylvatica)*. Invasive herbaceous cover does exist throughout the MRC in relatively low amounts. The common invasive species were Japanese honeysuckle (*Lonicera japonica*), Japanese barberry (*Berberis thunbergii*), and Japanese stiltgrass (*Microstegium vimineum).*

[5] An early mid-successional forest is a transitional stage between a young and mature forest.

Table 4-19. Vegetation Observed During 2020 Field Studies

	Common Name	Scientific Name
Overstory	Virginia pine	*Pinus virginiana*
	Sassafras	*Sassafras albidum*
	Sweetgum	*Liquidambar styraciflua*
	Eastern white pine	*Pinus strobus*
	Red oak	*Quercus rubra*
	Chestnut oak	*Quercus montana*
	Loblolly pine	*Pinus taeda*
	White oak	*Quercus alba*
	Red maple	*Acer rubrum*
	Hickory	*Carya tomentosa*
	Willow oak	*Quercus phellos*
	Beech	*Fagus grandifolia*
	Slippery elm	*Ulmus rubra*
	Tulip poplar	*Liriodendron tulipifera*
	Black gum	*Nyssa sylvatica*
	Pin oak	*Quercus palustris*
	Black willow	*Salix nigra*
	Sycamore	*Platanus occidentalis*
	Black oak	*Quercus velutina*
Understory	Red maple	*Acer rubrum*
	Holly	*Ilex opaca*
	Black cherry	*Prunus serotina*
	Red osier dogwood	*Cornus sericea*
	Sassafras	*Sassafras albidum*
	Chestnut oak	*Quercus montana*
	Red oak	*Quercus rubra*
	Sweetgum	*Liquidambar styraciflua*
	Beech	*Fagus grandifolia*
	Slippery elm	*Ulmus rubra*
	American hornbeam	*Carpinus caroliniana*
	Black gum	*Nyssa sylvatica*
	Highbush blueberry	*Vaccinium corymbosum*
	Sweetbay magnolia	*Magnolia virginiana*
	Hickory	*Carya tomentosa*
	Black willow	*Salix nigra*
Invasive	Japanese honeysuckle	*Lonicera japonica*
	Japanese barberry	*Berberis thunbergii*
	Japanese siltgrass	*Microstegium vimineum*

Source: Stantec, 2021

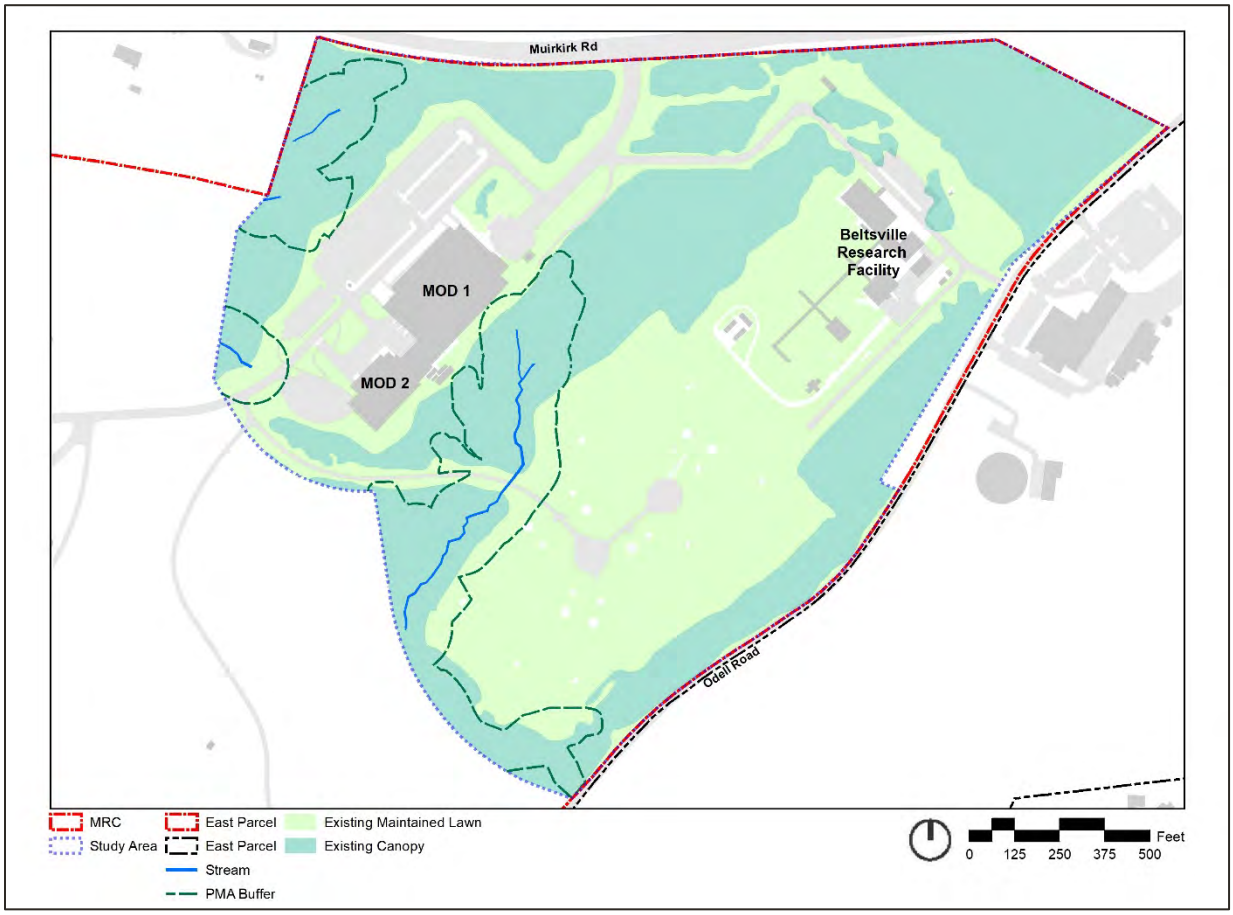


Figure 4-22. Existing Vegetation

4.7.3 How Would Vegetation Be Affected By The Project?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Ongoing projects at the MRC would not affect existing vegetation. There would be no impacts to vegetation as a result of the No-Action Alternative.

Alternatives A, B, and C (Action Alternatives)

Table 4-20 provides the amount of temporary and permanent lawn, canopy, and PMA impacts per Action Alternative.

Table 4-20. Vegetation Impacts by Alternative

	Temporary Lawn Impacts (ac)	Permanent Lawn Impacts (ac)	Permanent Canopy Impacts (ac)	Temporary PMA Impacts (ac)	Permanent PMA Impacts (ac)
Alternative A	5.3	3.5	4.8	0.9	0.2
Alternative B	4.9	3.5	5.2	0.3	<0.1
Alternative C	4.4	4.1	4.8	0.6	0.1

Under all the Acton Alternatives, most development activity would occur within areas designated as Urban or Built-Up Land and would be compatible with this designation. Construction of buildings, parking garages, roadways, bike paths, walking paths, and utilities under Alternative A would result in permanent impacts to 4.8 acres of forest, 3.5 acres of maintained lawn, and 0.2 acres of PMA; 5.2 acres of forest, 3.5 acres of maintained lawn, and less than 0.1 acres of PMA under Alternative B; and 4.8 acres of forest, 4.1 acres of maintained lawn, and 0.1 acre of PMA under Alternative C (**Table 4-20**).

Construction activities would be limited to the areas where buildings, roadways, utilities, parking garages, surface parking, and elevated boardwalks are to be constructed. If any additional clearing or grading is required for construction activities outside of these areas, the affected areas would be restored to pre-construction conditions, including replanting of trees in accordance with local and State requirements and revegetation with appropriate seed mixes; and would replace invasive species with native ones. Clearing needed for construction would result in moderate, short-term, adverse impacts and would be minimized as much as possible by implementing BMPs during construction, such as tree protection fencing, matting to prevent soil compaction, and protection of root zones of trees not to be removed.

The elevated boardwalk under Alternatives A and C would meander through the forested area between the MOD 1 and MOD 2 buildings and the BRF (**Figure 4-14**). Elevating the boardwalk would reduce the long-term impacts. The boardwalk would be designed to minimize tree removal, but some trees would need to be removed to accommodate the boardwalk. The elevated boardwalk under Alternative B would be rectilinear and would connect MOD 1 to the new buildings at the BRF site. The long-term adverse impacts to vegetation as a result of the Action Alternatives would be moderate because there would be a noticeable change in vegetation, but with mitigation the impact would not rise to a significant level.

Most of the other impacts under Alternatives A and B would occur in existing lawn areas at the MOD 1 and MOD 2 buildings and the BRF; and Alternative C would occur in existing lawn areas at the BRF. Some impacts would occur at the forest edge and portions of the forest would be removed. Although the Action Alternatives would result in the removal of vegetation, there would not be a fragmentation of forested areas. As seen in **Figure 4-23** through **Figure 4-25**, there would still be large, contiguous areas of vegetation remaining under the Action Alternatives. These minor, long term, adverse impacts would be minimized using tree protection to reduce root zone impacts, stabilized construction entrances, and using elevated boardwalks, which is a pervious system that allows canopy cover, even if some trees are removed. Any trees removed would be replaced according to NCPC, State of Maryland, and Prince George's County requirements.

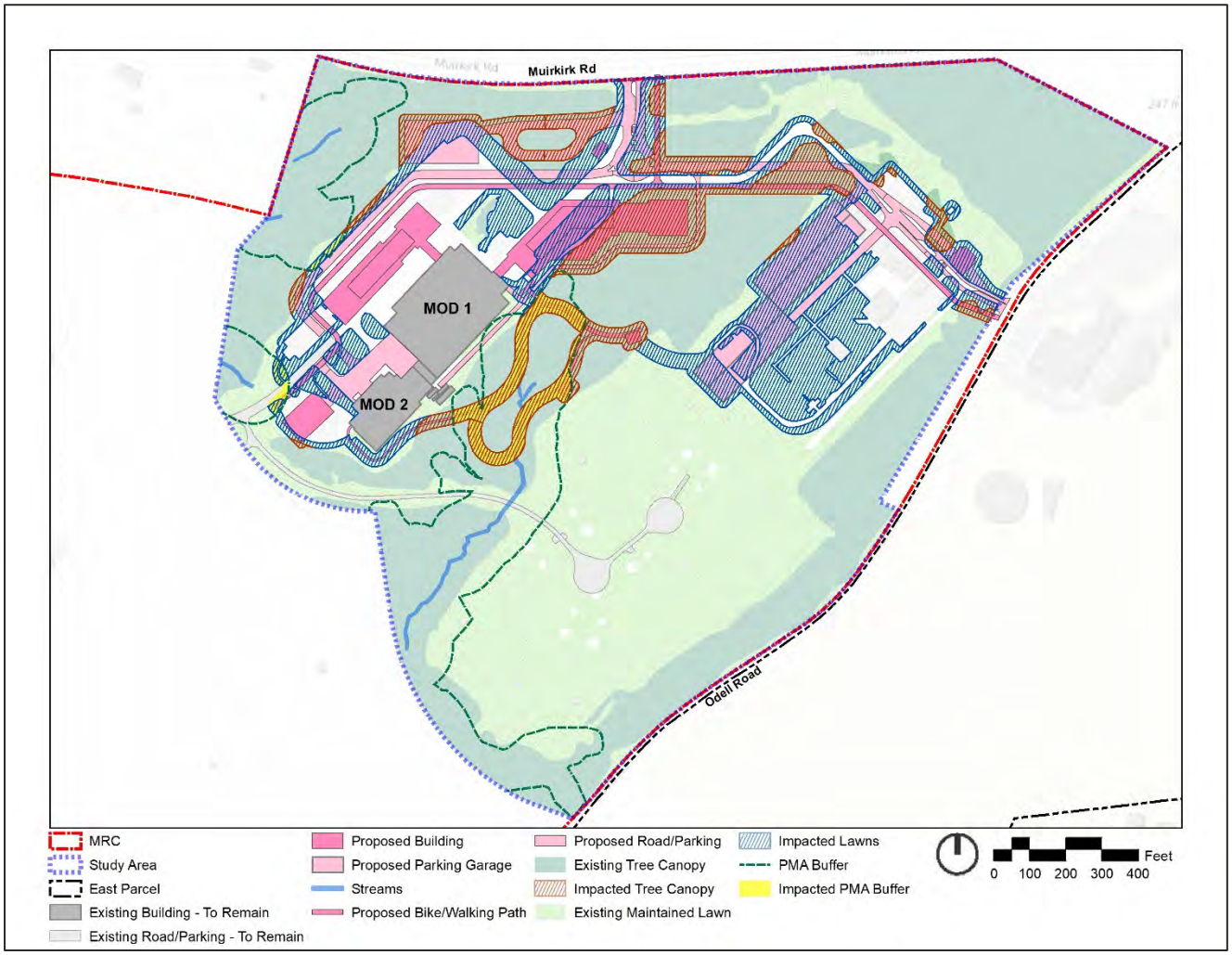


Figure 4-23. Vegetation Impacts Under Alternative A

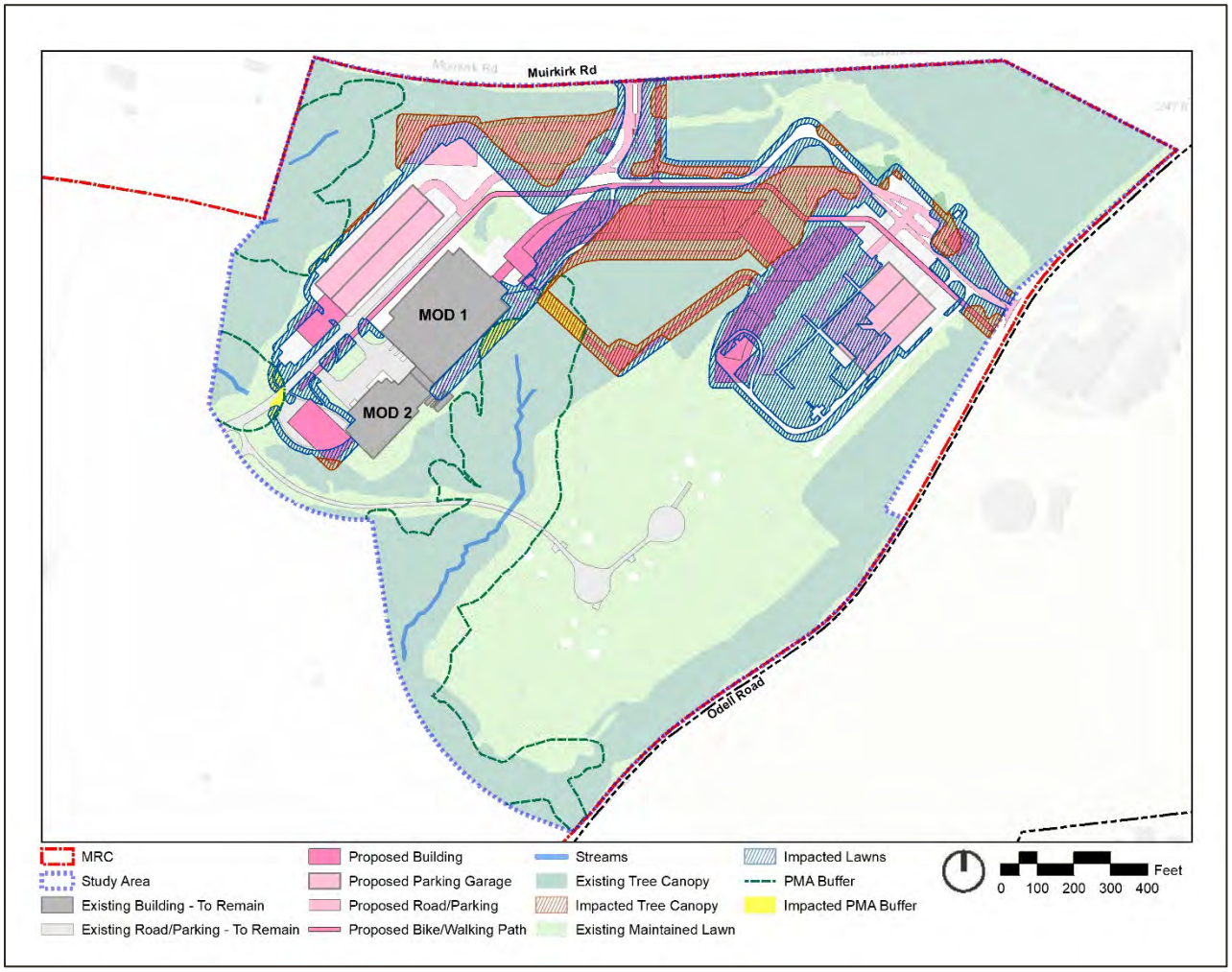


Figure 4-24. Vegetation Impacts Under Alternative B

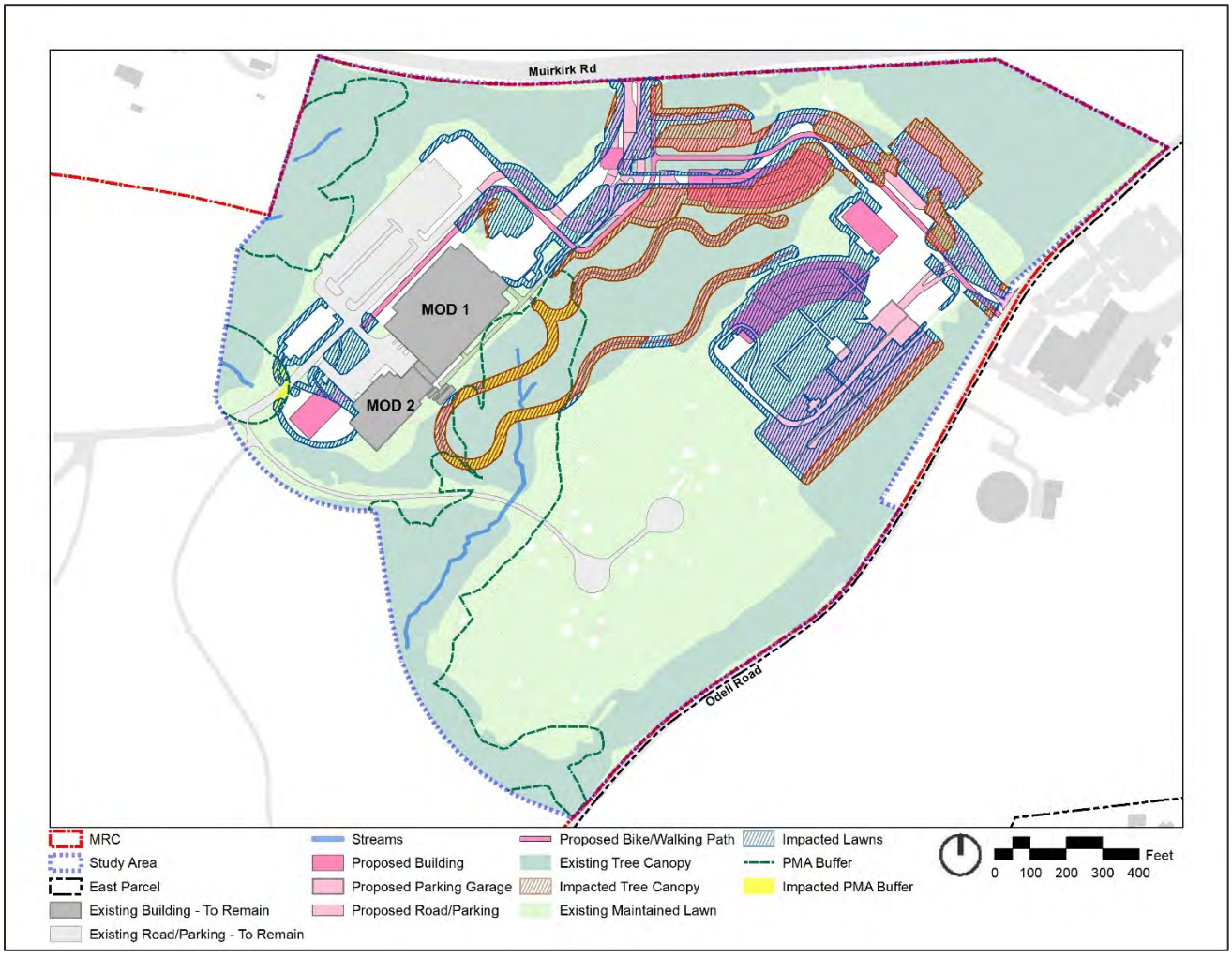


Figure 4-25. Vegetation Impacts Under Alternative C

4.7.4 What Efforts Would Be Made To Protect Vegetation?

BMPs for tree protection would be used to help preserve trees in the forested areas; these include tree protection fencing and root pruning for trees with critical root zones within the construction area. A Woodland Forest Conservation Plan would be developed to comply with the Prince George's County *Woodland Protection and Planning Law* (PG Co. Code Section 5B-119). The plan would also outline compensatory mitigation, if needed, to offset the loss of vegetation.

NCPC's *Tree Preservation and Replacement Policy*, the *Prince George's County Woodland and Wildlife Habitat Conservation Ordinance*, and the *Maryland Forest Conservation Act* (COMAR 8.19) policies would be followed. NCPC prioritizes tree preservation and focuses on transplanting or replacing existing trees when they are impacted by development. Based on NCPC replacement requirements, trees less than 10-inches in diameter need to be replaced at a 1:1 ratio (one tree planted for every one tree removed) (NCPC, 2020). The *Prince George's County Woodland and Wildlife Habitat Conservation Ordinance* and the *Maryland Forest Conservation Act* both require replacement of trees based on a conservation threshold acreage. This is a benchmark percent of the total area of the site (forested and non-forested) by which replanting acreage is calculated. The replacement requirements are that 0.25 acres would be replaced for each acre cleared

onsite above the conservation threshold acreage (1/4:1) and 2 acres for each acre cleared below the conservation threshold acreage (2:1) (Prince George's County – Planning Department, 2021 and MDNR, 2021c).

Construction activities would only impact areas that are to be cleared for structural components. All areas that are impacted will be protected with construction fencing and matting to prevent soil compaction. Areas that are not to be developed would not be used for equipment, parking, and other construction related activities unless no other alternatives are feasible. In the areas affected by the Master Plan, invasive species would be removed and replanted with native species.

4.8 WILDLIFE

4.8.1 Assessment Methodology

Impacts to wildlife were analyzed based on the characteristics and current conditions of the study area, 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 4-21**.

Table 4-21. 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 MRC) impacts	Campus-wide or Regional (i.e., beyond the MRC) 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

4.8.2 What Wildlife Are Located At The MRC?

The large, wooded land areas and open pasture on the MRC support numerous wildlife species. **Table 4-22** shows the mammal, amphibians, and avian species which are potentially found on the MRC (MDNR, 2021a). The MRC has a high potential to support the mammal species listed in **Table 4-22**. The MRC has a mix of forest and maintained grass, which provides habitat and food sources to all the species. During onsite

investigations, evidence was seen of white-tailed deer (*Odocoileus virginianus),* squirrels (*Sciurius carolinensis),* rabbits (*Leporidae sylvilagus)*, and groundhogs (*Marmota monax)*.

Amphibian and reptile species have a high potential to occur at the MRC due to the expansive wetlands and relatively undisturbed areas. Avian species were also observed during onsite investigations. Due to the forested areas, fields, and wetlands on the MRC there is a potential for roosting, habitat, and nesting for avian species.

Aquatic species have a slight chance to occur, due to the stream and wetlands that are present within the study area. The aquatic species that could be found within the study area do not require large water systems; thus, they could possibly exist in the streams identified onsite. In addition to the potential for wildlife at the MRC, the MRC also supports grazing animals for CVM.

Table 4-22. Wildlife Species Potentially Within the Study Area

Species	Common Name	Scientific Name
Mammal Species	White-tailed deer	*Odocoileus virginianus*
	Raccoon	*Procyon lotor*
	Gray fox	*Urocyon cinereoargenteus*
	Red fox	*Vulpes*
	Eastern cottontail	*Sylvilagus floridanus*
	Groundhog	*Marmota monax*
	Virginia opossum	*Didelphis virginiana*
	Striped skunk	*Mephitis*
	Gray squirrel	*Sciurus carolinensis*
	Eastern chipmunk	*Tamias striatus*
	Southern flying squirrel	*Glaucomys volans*
	Coyote	*Canis latrans*
	Eastern mole	*Scalopus aquaticus*
	Beaver	*Castor canadensis*
	White-footed deermouse	*Peromyscus leucopus*
	Little brown bat	*Myotis lucifugus*
	Big brown bat	*Eptesicus fuscus*
	Eastern red bat	*Lasiurus borealis*
	Northern short-tailed shrew	*Blarina brevicauda*
Amphibian & Reptile Species	Eastern gartersnake	*Thamnophis sirtalis*
	Eastern box turtle	*Terrapene carolina*
	Fowler's toad	*Anaxyrus fowleri*
	Eastern ratsnake	*Pantherophis alleghaniensis*
	Common gartersnake	*Thamnophis sirtalis*
	Eastern red-backed salamander	*Plethodon cinereus*
Avian Species	American robin	*Turdus migratorius*
	Northern mockingbird	*Mimus polyglottos*
	Pileated woodpecker	*Dryocopus pileatus*
	Mourning dove	*Zenaida macroura*
	European starling	*Sturnus vulgaris*
	Canada geese	*Branta canadensis*
	Northern cardinal	*Cardinalis*
	Dark-eyed junco	*Junco hyemalis*
	White-throated sparrow	*Zonotrichia albicollis*

Species	Common Name	Scientific Name
	Tufted titmouse	*Baeolophus bicolor*
	Carolina wren	*Thryothorus ludovicianus*
	American goldfinch	*Spinus tristis*
Aquatic Species	Cutlips minnow	*Exoglossum maxillingua*
	Rosyside dace	*Clinostomus funduloides*
	Swallowtail shiner	*Notropis procne*
	Common shiner	*Luxilus cornutus*
	Blacknose dace	*Rhinichthys atratulus*
	Northern creek chub	*Semotilus atromaculatus*
	Tessellated darter	*Etheostoma olmstedi*

Source: MDNR, 2021a

4.8.3 How Would Wildlife Be Affected By The Project?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Ongoing projects at the MRC would not affect wildlife. The MRC would remain unchanged from its current conditions; therefore, there would be no impacts to wildlife or wildlife habitat.

Alternatives A, B, and C (Action Alternatives)

Vegetation and tree removal for construction of new buildings, parking garages, bike paths, walking paths, and utilities as described in Section 4.7.3 would result in a loss of habitat for terrestrial wildlife within the study area. Trenching for installation of utilities would similarly disturb habitat. Large wildlife species currently utilizing MRC such as raccoons, groundhogs, 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. In addition, development would occur outside the roosting periods for the northern long-eared bat. Noise generated during construction would disturb wildlife. Once construction is completed, impacts to wildlife from noise would decrease. There would be a slight, but detectable, effect on wildlife from noise and displacement during construction, resulting in minor, short-term, adverse impacts.

Once construction is complete, there would be permanent removal of habitat where the buildings, roads, and other improvements have been constructed. Large animals such as raccoons, groundhogs, 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 MRC to meet their requirements. 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. There would be sufficient remaining habitat in the surrounding areas to provide for displaced species after construction. Therefore, the Action Alternatives would result in minor, long-term, adverse impacts to wildlife from habitat loss.

Removal of forest could impact migratory birds that may be utilizing these areas for nesting or foraging. However, there is similar habitat on the outer perimeter and on the East Parcel that can be utilized by migratory birds. With the mitigation measures described below, the Action Alternatives would have minor, short- and long-term, adverse impacts on migratory birds.

Construction of new buildings, parking garages, bike paths, walking paths, and utilities as described in Section 4.7.3 would result in an increase in impervious surface as described in Sections 4.4.3 and 4.6.3. This increase in impervious surfaces could result in increased stormwater flows, soil erosion, and water quality degradation that could, in turn, affect aquatic wildlife. Implementation of permanent stormwater controls, as described in Section 4.6.4, would minimize stormwater runoff and potential water quality degradation of the stream. With mitigation measures, the Action Alternatives would have minor, short- and long-term, adverse impacts on aquatic wildlife.

Animals at the Animal Research Facility would continue to graze on pasture lands south of the study area. These animals would be protected from interaction with FDA employees by the existing 8-foot interior chain-link fence.

Overall, habitat loss may place stress on wildlife populations that would be slight, but detectable. Therefore, the Action Alternatives would result in minor, long-term, adverse impacts to wildlife.

4.8.4 What Efforts Would Be Made To Protect Wildlife?

Construction fencing would be used to protect wildlife from entering active construction areas. 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 and compensatory mitigation would replace habitat lost over the long-term.

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, FDA 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.

Compliance with the approved erosion and sediment control plan would minimize impacts to aquatic biota by controlling sedimentation. Areas of forest that provide habitat and movement corridors for wildlife would be maintained to minimize impacts to wildlife and any trees less than 10-inches in diameter that need to be removed would be replaced at a 1:1 acre ratio on the site.

4.9 COASTAL ZONE MANAGEMENT

4.9.1 Assessment Methodology

Impacts to the coastal zone were analyzed based on how implementation of the Master Plan would be consistent with the policies of the Maryland Coastal Zone Management Plan. The characteristics and current conditions of the study area in comparison with site conditions to be expected following construction.

The impact thresholds for coastal zone management are provided in **Table 4-23**.

Table 4-23. Impact Intensity Thresholds for Coastal Zone Management

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable changes to Maryland's Coastal Zone Management Plan from construction related activities	Slight, but detectable impacts to Maryland's Coastal Zone Management Plan 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 impacts to Maryland's Coastal Zone Management Plan from construction related activities or operation of facilities
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 coastal zone	Localized (i.e., confined to the project sites) with high probability of impacts to the coastal zone
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

4.9.2 Is the MRC Located Within the Coastal Zone?

The CZMA sets out requirements for the management of the nation's coastal resources. The CZMA sets forth the National Coastal Zone Management Program which "aims to balance competing land and water issues through state and territorial coastal management programs" (NOAA, 2021). Section 307 of the CZMA requires that Federal undertaking activities within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone, carry out those activities consistent, to the maximum extent practicable, with the enforceable policies of approved State management programs (16 U.S.C. 1456).

The MRC is located within Maryland's Coastal Zone. Maryland's Coastal Zone extends from three miles out in the Atlantic Ocean to the inland boundaries of 16 counties (including Prince George's County) and City of Baltimore that border the Atlantic Ocean, Chesapeake Bay, or the Potomac River (MDNR, 2021b).

4.9.3 What are the Policies of Maryland's Coastal Zone Management Program?

The Maryland Coastal Zone Management Program consists of enforceable coastal policies including general policies, coastal resource policies, and coastal use policies. Following is a description of each of the policies applicable to the MRC Master Plan (MDE, 2011).

General Policies

Core Policies – The core policies of the *Maryland Coastal Zone Management Plan* stress the protection of the health, general welfare, and property of the people of the State. The core policies applicable to the MRC Master Plan include policies for the protection of air resources; elimination of noise hazards; reasonable appropriation of water resources and protection of water resources; the consideration and protection of the natural character and scenic value of rivers and waterways; prevention of soil erosion; and control of hazardous substances.

Coastal Resources

The Chesapeake and Atlantic Coastal Bays Critical Area –The MRC is not located within the Critical Area;[6] therefore, the policies of this program are not applicable.

Tidal Wetlands – There are not tidal wetlands within the project area, so the policies of this program are not applicable.

Non-Tidal Wetlands – The purpose of non-tidal wetlands management is to protect natural character in, on, or over non-tidal wetlands. Removal, excavation, grading, dredging, discharging of, or filling a non-tidal wetland with materials of any kind, changing existing drainage characteristics, disturbing water levels/table, and destroying plant life is prohibited unless the proposed project has no practicable alternative; adverse impacts are first avoided and minimized; comprehensive watershed management plans are considered; and the proposed project does not cause or contribute to an individual or cumulative effect that degrades aquatic diversity, public welfare, water quality, and recreational values.

Forests – The *Forest Conservation Act* and the other associated regulations are enforceable policies. Before developing an area larger than 40,000 sf, any forested and environmentally sensitive areas must be identified and preserved when possible. If preservation is not possible, then reforestation or other mitigation measures are required to replace values associated. This policy does not apply in critical areas.

Historical and Archaeological Sites – The purpose of this program is to protect historical and archaeological sites. Unless permission is granted from Maryland Historical Trust, activities such as excavation are prohibited.

Living Aquatic Resources – The Living Aquatic Resources program establishes conditions for granting or denying permits to collect or impact aquatic resources. The program is administered by MDNR and MDE.

Coastal Uses

Other polices included in the Maryland's enforceable coastal policies include coastal uses (e.g., mineral extraction, navigation, transportation, sewage treatment, and oil/natural gas facilities).

[6] "The critical area is…land and water areas within 1,000 feet beyond the landward boundaries of tidal wetlands," (MDNR, 2021b).

4.9.4 Is the MRC Master Plan Consistent with Maryland's Coastal Zone Management Plan?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The MRC is being operated in a manner consistent with the polices of the Maryland Coastal Zone Management Program. Under the No-Action Alternative there would be no new construction of buildings, pedestrian walkways, elevated boardwalks, roads, or parking garages. Ongoing projects at the MRC would not affect the coastal zone. There would be no impacts as a result of the No-Action Alternative.

Alternatives A, B, and C (Action Alternatives)

The MRC Master Plan would be undertaken in a manner consistent with the policies of the Maryland Coastal Zone Management Program. A Federal consistency determination is being submitted to MDE and is included in **Appendix A**. A summary of the Master Plan's consistency with the applicable enforceable policies of the Maryland Coastal Zone Plan is provided in **Table 4-24** below. Approval and/or recommendation from the Maryland Coastal Zone Management Program will be incorporated into this section and correspondence will be provided in **Appendix A** in the Final EIS. Under the Action Alternatives there would be no discernable changes to Maryland's Coastal Zone; therefore there would be a negligible, long-term, adverse impact.

Table 4-24. Consistency with the Enforceable Policies of the Maryland Coastal Zone Management Program

Policy	Consistency with Applicable Policies	
General Policies		
Core Policy – Quality of Life	Policy 1 – Air Quality	Under the Action Alternatives, any impacts within the region from the mobile sources would be offset by the advancement in automobile technology and Federal emission regulations and controls. Therefore, the Action Alternatives are consistent, to the maximum extent practicable, with this policy.
	Policy 2 – Noise	The Action Alternatives would result in barely perceptible or imperceptible increases in noise. Therefore, MRC Master Plan is consistent, to the maximum extent practicable, with this policy.
	Policy 5 – Natural Character & Scenic Value of Rivers and Waterways	The project would result in impacts to a perennial stream. The project would have minimal effect to the natural character and scenic value of the stream; therefore, the Action Alternatives are consistent, to the maximum extent practicable, with this policy.
	Policy 9 – Public Outreach	Authorization under Section 404/401 of the CWA would be required for temporary impacts to wetlands, wetland buffers, and waterways and would require authorization under Maryland's Wetland and Waterway Regulations. Implementation of the Master Plan would follow the requirements of permits; therefore, the MRC Master Plan is consistent with this policy.
	Policy 10 – Erosion & Sediment Control	Stormwater management plans and erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction. Therefore, the Action Alternatives are consistent with this policy.

Policy	Consistency with Applicable Policies	
Core Policy – Waste & Debris Management	Policy 1 – Hazardous Waste Management	Implementation of the MRC Master Plan may generate hazardous materials. All outgoing waste, including hazardous and biological wastes, would be collected in accordance with FDA's waste diversion requirements and would be disposed of in accordance with state and Federal laws. Therefore, the MRC Master Plan is consistent with this policy.
Core Policy – Water Resources Protection & Waste Management	Policy 1 – Pollution Discharge Permit	FDA maintains a NPDES General Permit for Discharges from State and Federal Small MS4s, administered by MDE. Additionally, FDA would obtain a NPDES General Permit for Stormwater Associated with Construction Activity, also administered by MDE, prior to construction. No other discharges would occur to waters of the State; therefore, the MRC Master Plan is consistent with this policy.
	Policy 2 – Protection of Designated Uses	The project would result in temporary stream impacts from the construction of a pedestrian boardwalk or walkway but would not affect the designated uses. Therefore, the MRC Master Plan is consistent with this policy.
	Policy 3 – Protection of Designated Uses	Toxic substances would not intentionally be released into waters of the State; therefore, the MRC Master Plan is consistent with this policy.
	Policy 4 – Pre-Development Discharge Permit	FDA would obtain a NPDES General Permit for Stormwater Associated with Construction Activity, administered by MDE, prior to construction. No other discharges would occur to waters of the State; therefore, the MRC Master Plan is consistent with this policy.
	Policy 5 – Use of Best Available Technology or Treat to Meet Standards	Stormwater management plans and erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction. These plans would use techniques and approaches to ensure compliance with applicable water quality standards. Therefore, the MRC Master Plan is consistent, to the maximum extent practicable, with this policy.
	Policy – Control of Thermal Discharges	
	Policy 7 – Pesticide Storage	Pesticides would be stored in accordance with MDE requirements and any approvals for secondary containment would be obtained. Therefore, the MRC Master Plan is consistent with this policy.
	Policy 8 – Stormwater Management	Public involvement and outreach will be conducted as part of the NEPA process and during implementation of the MRC Master Plan; therefore, the MRC Master Plan is consistent with this policy.
	Policy 11 – Public Outreach	
Coastal Resources		
Non-tidal Wetlands	Policy 1 – Removal or Alteration is Generally Prohibited Unless There Is No Practicable Alternative, in Which Case, Impacts are First Minimized & Then Mitigated to Replace Ecological Values Lost	FDA would minimize impacts to wetlands to the extent practicable and would obtain authorization to construct the walkway under Section 404/401 of the CWA and Maryland's Wetland and Waterway Regulations from MDE and the USACE. Additionally, stormwater management plans and erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction. Therefore, GSA has determined that the Action Alternatives are consistent, to the maximum extent practicable, with this policy.

Policy	Consistency with Applicable Policies	
Forests	Policy 1 – Projects Impacting More Than 40,000 Square Feet Must Generally Identify & Protect Habitat & Mitigate for Impacts	A Forest Conservation Plan would be developed to comply with Prince George's County Woodland Protection and Planning Law (PG Co. Code Section 5B-119); the Maryland State Forest Conservation Act (COMAR 8.19); and NCPC's Tree Preservation and Replacement Policies. Removed trees would be replaced in accordance with these policies. Therefore, Action Alternatives are consistent, to the maximum extent practicable, with this policy.
	Policy 2 – Maintain Resource Sustainability & Prevent or Limit Clear-Cutting to Protect Watersheds	A Forest Conservation Plan would be developed to comply with Prince George's County Woodland Protection and Planning Law (PG Co. Code Section 5B-119); the Maryland State Forest Conservation Act (COMAR 8.19); and NCPC's Tree Preservation and Replacement Policies. Removed trees would be replaced in accordance with these policies. Therefore, Action Alternatives are consistent, to the maximum extent practicable, with this policy.
	Policy 6 – Sediment & Erosion Control in Non-Tidal Wetlands	Stormwater management plans and erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction that would minimize indirect impacts to wetlands from potential sedimentation. Therefore, GSA has determined that the Action Alternatives are consistent, to the maximum extent practicable, with this policy.
Living Aquatic Resources	Policy 1 – Protection of Rare, Threatened or Endangered Fish or Wildlife	A review of the USFWS Information for Planning and Consultation (IPaC) website determined that the federally threatened northern long-eared bat (*Myotis septentrionalis)* potentially exists within the study area (USFWS, 2021). In a letter dated January 27, 2021, MDNR responded that there are no official state or Federal records for listed plant or animal species within the study area. development would occur outside the roosting periods for the northern long-eared bat and nesting periods for migratory birds; therefore, the Action Alternatives are consistent, to the maximum extent practicable, with this policy.
	Policy 5 – Time-of-Year Restrictions for Construction in Non-Tidal Waters	The project would adhere to time-of-year restrictions, as required, for any in-stream construction in non-tidal waters. Therefore, the Action Alternatives are consistent with this policy.
	Policy 7 – Non-Tidal Habitat Protection & Mitigation	A Forest Conservation Plan would be developed to comply with Prince George's County Woodland Protection and Planning Law (PG Co. Code Section 5B-119); the Maryland State Forest Conservation Act (COMAR 8.19); and NCPC's Tree Preservation and Replacement Policies. Removed trees would be replaced in accordance with these policies. Therefore, Action Alternatives are consistent, to the maximum extent practicable, with this policy.
Coastal Uses		
Development	Policy 1 – Sediment & Erosion Control	Stormwater management plans and erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction. Therefore, FDA has determined that the Action Alternatives are consistent, to the maximum extent practicable, with this policy.
	Policy 2 – Erosion and Sediment Control Plan	
	Policy 3 – Stormwater Management	

Policy	Consistency with Applicable Policies	
	Policy 4 – First Avoid then Minimize Wetland Impacts, Minimize Water Quality, Habitat & Forest Damage & Preserve Cultural Resources	FDA would minimize impacts to wetlands to the extent practicable and would obtain authorization to construct the walkway under Section 404/401 of the CWA and Maryland's Wetland and Waterway Regulations from MDE and the USACE. Additionally, stormwater management plans and erosion and sediment control plans would be prepared and submitted to MDE for review and approval prior to construction. Therefore, GSA has determined that the Action Alternatives are consistent, to the maximum extent practicable, with this policy.
	Policy 5 – Proposed Development Projects Must Be Sited Where Adequate Water Supply, Sewerage and Solid Waste Services & Infrastructure Are Available	Coordination with local utilities and solid waste services has determined that adequate services and infrastructure are available to meet existing and future development at the MRC. Therefore, the Action Alternatives are consistent with this policy.
	Policy 10 – Citizen Engagement in Planning & Development	Public involvement and outreach will be conducted as part of the NEPA process and during implementation of the MRC Master Plan. Therefore, the MRC Master Plan is consistent with this policy.
	Policy 14 – Communities Must Identify Adequate Water Supply, Stormwater & Wastewater Services & Infrastructure to Meet Existing & Future Development	Coordination with local utilities has determined that adequate services and infrastructure are available to meet existing and future development at the MRC. Therefore, the MRC Master Plan is consistent with this policy.

4.9.5 What Efforts Would Be Made to Protect Coastal Zone Resources?

Stormwater quantity and quality control measures would be designed and implemented in accordance with local, state, and Federal regulations. During construction, BMPs would be implemented to minimize soil erosion and stormwater pollution. SWM and ESC plans would be prepared and submitted to MDE for review and approval prior to construction. All disturbed areas would be permanently revegetated and stabilized following construction to prevent further erosion of soils and runoff into streams and wetlands. Temporary impacts to coastal zone resources would be restored to pre-construction conditions to the maximum extent practicable following construction, including contour and elevation restoration, revegetation with native species, streambank stabilization, and stream substrate replacement.

A Forest Conservation Plan would be developed to comply with Prince George's County Woodland Protection and Planning Ordinance (PG Co. Code Section 5B-119), and the Maryland State Forest Conservation Act (COMAR 8.19). Removed trees would be replaced following a ratio as outlined in local, state, and Federal regulations to mitigate coastal zone impacts to vegetation and habitat. Forest clearing would occur outside the roosting periods for the northern long-eared bat. 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, FDA would avoid vegetative clearing during the nesting period for those species.

Any hazardous substances generated during construction or from the operation of new facilities would be disposed of at an MDE-permitted facility or a facility that provides and equivalent level of environmental protection.

4.10 CULTURAL RESOURCES

4.10.1 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.

The impact thresholds for Cultural Resources are provided in **Table 4-25**.

Table 4-25. 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

Section 101(b)(4) of the NEPA requires the Federal Government to coordinate and plan its actions to, among other goals, "preserve important historic, cultural, and natural aspects of our national heritage…" The CEQ implementing regulations require that impacts of Federal action on historic and cultural resources be included as part of the NEPA process.

Additionally, Section 106 of the NHPA of 1966 requires that Federal agencies consider the effects of their actions on historic resources. Under the NHPA, GSA and FDA must evaluate impacts to any district, site,

building, structure, or object listed in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 review encourages preservation of historic properties; however, there are times when impacts to historic resources cannot be avoided. When the Government must impact historic resources, they are required to consult with local and Federal agencies responsible for historic preservation, local citizens, and groups with an interest in historic preservation. When the Government must impact historic resources, they are required to consult with local and Federal agencies responsible for historic preservation, local citizens, and groups with an interest in historic preservation. While GSA and FDA completed the Section 106 process for the 1981 Master Plan update and for the construction of MOD 2 in 1995, various aspects of the proposed Acton Alternatives under the Master Plan may have the potential to impact historic resources and views. For this reason, GSA and FDA are required to conduct additional consultations with the MHT and other interested parties.

For the proposed MRC Master Plan, GSA and FDA initiated consultation with the MHT in accordance with Section 106 of the NHPA on November 25, 2020. Throughout the project planning for the Master Plan, GSA and FDA have sought input on the impacts to cultural resources and ways to avoid and minimize these impacts. GSA has solicited input from:

- MHT (MD SHPO)
- NCPC
- ACHP
- Maryland Commission on Indian Affairs
- Prince George's County Planning Department
- Prince George's County Historic Preservation Office
- Maryland Army-National Guard
- WSSC
- Prince George's County Council
- Black History Program of the Maryland-National Capital Park and Planning Commission
- Laurel Historical Society
- Prince George's County Historical Society
- Neighborhood Homeowners and Community Associations

4.10.2 What is the Area of Potential Effect?

The APE is defined in 36 CFR 800.16 as "the geographic area or areas within which an undertaking may cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

The APE encompasses the resources visually (indirectly) or physically (directly) affected by the demolition and construction associated with implementation of the MRC Master Plan. The APE includes the 197-acre existing MRC and the 52-acre East Parcel (**Figure 4-26**). The MRC, bounded roughly by Muirkirk Road, Odell Road, and Ellington Drive, contains three developed areas: the MOD 1 and MOD 2 buildings, the BRF, and the Animal Research Facility. Portions of the East Parcel, which is east of Odell Road, are leased for facilities of the Maryland Army National Guard (23 acres) and the South Laurel Water Pumping Station (4 acres) while the remaining 25-acre area is undeveloped. The APE includes all resources that may be affected by the proposed undertaking.

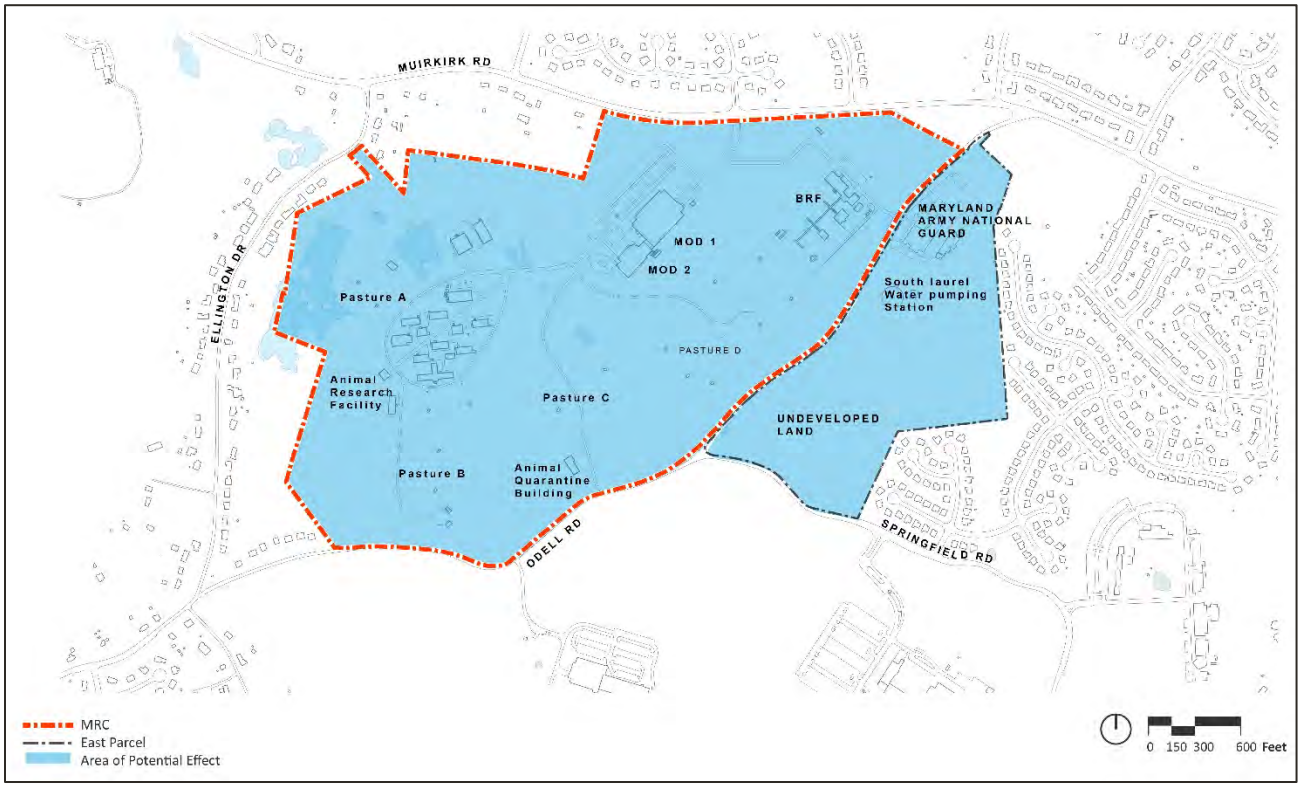


Figure 4-26. Area of Potential Effect

4.10.3 What is the Historic Context for the MRC?

Human habitation of Maryland first occurred over 14,000 years ago. Early settlements consisted of small hunting camps associated with sources of high-quality lithic raw materials. Mobility was driven by seasonal availability of resources and weather patterns and sites were frequently reoccupied over several years. During the Archaic period (9000 to 1000 BC), settlement patterns in the region included riverine base camps and upland short-term hunting camps. The Woodland period (1000 BC to AD 1600) witnessed increased sedentism, with larger riverine-based sites occupied for longer periods of time. Small food-storage pits, ceramics, and formal hearths appeared for the first time. Increased sedentism coincided with agricultural practices. By the time Europeans arrived in Maryland, larger permanent villages with associated smaller, resource-extraction hamlets were the norm. Socio-political organization of groups in the region ranged from egalitarian to temporary hierarchies to chiefdoms (Stantec, 2021b).

Maryland was established as an English colony in 1634; however, the area near the MRC was not settled until a century later, when Captain Richard Snowden, Jr. discovered iron ore on his Birmingham Manor estate northwest of Laurel. Iron mining and industrial iron manufacturing proliferated in the area during the 19th century following the establishment of the Muirkirk Iron Furnace in 1846. The land that now makes up the MRC was only sparsely inhabited at the time, with much of the property leased for iron ore and clay mining by descendants of the Snowden family. A late 19th-century map depicts residences owned by Lester D. Moore and Mrs. Isaac Snowden on what is now the main MRC parcel. Moore married into the Snowden family. Historical research suggests no mining activities occurred on the East Parcel, which was instead used for agricultural and logging activities, possibly by J. Alonzo Barnes, whose residence is on the east side of Odell Road. Mining activities ceased by 1938 though agricultural and logging activities continued on the East Parcel until the mid-twentieth century (Quinn Evans, 2021).

FDA acquired the MRC land in 1964 from the USDA. Prior to that, the property was part of the USDA's BARC, although the BARC facilities were located to the south of the campus. By the late 1950s, the campus area was largely covered by successional woodland. In 1961, it was declared as excess real property by the USDA and approved as the location of a new research facility for FDA. Initial development of the new facility took place between 1962 and 1963, with the construction of the SPAL, now known as the BRF, on the northeast corner of the campus. This consisted of a one-story laboratory building with five cross-shaped kennels connected by a covered walkway. A 1966 Site Development Plan envisioned the expansion of the facility with additional laboratory buildings to the west of the BRF and animal pastures at the southwest end of the property. However, budgetary issues delayed implementation of this plan. The MOD 1 building was constructed between 1983 and 1991, and the MOD 2 building and Animal Research Facility were constructed between 1994 and 1998. FDA stopped using the kennels at the BRF around 1993, and they were demolished between 1998 and 2002 (Quinn Evans, 2021).

FDA acquired the East Parcel in 1979 after the USDA declared the land as excess property. While FDA's updated master plan for the facility in 1981 envisioned expansion of the MRC onto the East Parcel, this did not take place. Around 1981, the WSSC built a water storage tank on a 4-acre area of the East Parcel along Odell Road (the South Laurel Water Pumping Station), leased from FDA. Around 1993, the Maryland Army National Guard constructed a two-building armory facility on another leased area of the East Parcel east of Odell Road and north of the South Laurel Water Pumping Station (Quinn Evans, 2021).

The area's general character comprises institutional complexes and residential subdivisions set on small open green spaces within larger wooded areas, consistent with the pastoral character of this area of Prince George's County. The MRC is characterized by clusters of buildings spatially oriented 45 degrees from the north-south axis and open pastures surrounded by deciduous trees. Three natural stream valleys originate in the high areas at the north, northwest, and west areas of the campus and run south and west to the low point on Odell Road. On the western end of the campus are three large ponds formed by mined iron ore pits. The building areas are connected by two-lane asphalt drives with no shoulders or sidewalks. The campus is surrounded by a security fence and a vegetative buffer (Quinn Evans, 2021).

4.10.4 Are There Any Historic Structures or Landscapes at the MRC?

Prior to the current Master Plan, the MRC had not been formally evaluated by the MHT or Prince George's County for the presence of cultural resources. MRC structures date from the mid to late twentieth century and had not yet reached the 50-year threshold for significance under the NHPA.

As part of the planning of developing the MRC Master Plan, a Determination of Eligibility was conducted. While the BRF laboratory building is over 50 years old (constructed between 1962 and 1963), it was determined not eligible for the NRHP due to the extensive alterations to the building and the demolition of the attached kennels. The MOD 1, MOD 2, and Animal Research Facility buildings are all less than 50 years old and do not meet the criteria for exceptional significance under NRHP guidance.

The design of the campus landscape also dates to fewer than 50 years ago. Although the general spatial organization and some specific characteristics of the campus were established in the 1966 Site Development Plan, the design was considerably altered; first when the plan was updated in 1980, and later when the site designs for MOD 2 and the Animal Research Facility were finalized and carried out in the mid to late 1990s. There is no context within which the campus landscape design qualifies as exceptionally important under NRHP guidance.

The MHT concurred with the findings of the Determination of Eligibility on March 4, 2021. Please see **Appendix C** for MHT's letter of concurrence.

4.10.5 Are There Any Archaeological Resources Within or Adjacent to the MRC?

Three archaeological investigations have been conducted within the MRC. The first archaeological survey undertaken occurred in 1981 (McCarthy and Thomas, 1981). The survey focused on three areas of high probability for archaeological resources. Area 1 was located on the east side of Odell Road currently occupied by the Maryland National Guard facility on the East Parcel. Shovel test pit (STP) excavations in Area 1 yielded artifacts associated with the late 19th to early twentieth century J. Alonzo Barnes farmstead, and the cluster was recorded as site 18PR377. The site was determined ineligible for listing on the NRHP, and no further archaeological investigations were recommended at site 18PR377. The site was likely destroyed during construction of the National Guard facility. Area 2 was located south and west of the BRF, and Area 3 was located on the north side of Odell Road near the current quarantine facility and west pasture areas. No Native American or Historic period artifacts or deposits were identified in Areas 2 and 3, and no further archaeological investigations were recommended for the areas surveyed.

Archaeological investigations along proposed alignments for an Intercounty Connector (ICC) began in 1980. The archaeological survey conducted as part of the ICC project examined 45 miles of proposed alignment, one of which traversed through the northern portion of the Master Plan study area (Curry, 1983). A windshield and desktop survey concluded the Master Plan study area had a low potential for archaeological resources, and thus it was not included in the 29 tracts subject to further archaeological investigations.

A comprehensive archaeological study of the MRC Master Plan study area was completed in January 2021 (Stantec, 2021b). The study area, which was divided into 14 survey sections or areas and totaled 235 acres, included the entire 197-acre MRC and the 38-acres of the 52-acre East Parcel. Eleven of the 14 survey areas were systematically tested with the excavation of 1,738 STPs, while two survey areas and four survey sections were judgmentally tested with the excavation of 43 hand-auger tests. The survey resulted in the identification of one archaeological site (18PR1198), a Middle Archaic to Early Woodland period lithic scatter on a wooded knoll near the center of the East Parcel that is potentially eligible under NRHP Criterion D and recommended for further testing prior to future development to confirm its eligibility for listing. No features were identified in association with site 18PR1198 and it has not been evaluated for listing in the NRHP. No evidence of the Moore or Snowden residences were uncovered during the archaeological survey of the MRC.

On March 4, 2021, the MHT concurred with these findings and noted that as no development actions are planned for the East Parcel, the current undertaking is unlikely to affect this archaeological site (**Appendix C**).

4.10.6 How Would Cultural Resources Off of the MRC Be Affected by Implementation of the Master Plan?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Ongoing projects would not affect cultural resources off the MRC. Therefore, the cultural resources of the Rossville community and the BARC would not be affected by the No-Action Alternative.

Alternatives A, B, and C (Action Alternatives)

The MRC contains three pits related to iron ore extraction in the 19th and/or early twentieth centuries. The closest iron producing facility was the Muirkirk Ironworks, several miles northwest of the MRC. No extant above-ground resources associated with the Muirkirk Ironworks remain. The community of Rossville was historically settled by free Black people, many of whom worked at Muirkirk Ironworks (MNCPPC, 2012). The core of the community was located north of Muirkirk Road west of Ellington Drive, northwest of the MRC. According to the 2003 MHT Determination of Eligibility Form, Rossville was surveyed in 1983 and 1987 (Curry, 1983 and Sorensen, 1990). The district was also documented in the 2007 *Rossville Community Survey* and in the 2012 context study *African American Historic and Cultural Resources in Prince George's County*. None of these surveys cite any Rossville-related sites within the MRC boundaries. The closest properties were the Muirkirk Rosenwald School (1922) (MNCPPC, 2012) on the south side of Muirkirk Road west of Ellington Drive, and the Edward Gross house, located southwest of the intersection of Ellington Drive and Odell Road (Hill et al., 2014 and Quinn Evans, 2021).

The BARC is located to the south of the MRC. The BARC was evaluated by the MHT in the 1970s and 1990s, and in 2017, an addendum provided an updated historic context for the property. The BARC's Central Farm, the largest of the farm clusters associated with the facility, lies to the south of the MRC.

These properties are outside the APE for the Master Plan. The perimeter of the MRC has a heavily wooded buffer, and new buildings proposed under the Master Plan would only be partially visible from the main entry points and through the trees during winter. Therefore, the cultural resources of the Rossville community and the BARC would not be affected by implementation of the MRC Master Plan.

4.10.7 Would Cultural Resources on the MRC be Affected by Implementation of the Master Plan?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The Determination of Eligibility established that there are no historic structures or archaeological resources in the APE; therefore, no historic structures or archaeological resources would be affected under the No-Action Alternative.

Alternatives A, B, and C (Action Alternatives)

The Determination of Eligibility established that there are no historic structures or archaeological resources in the APE; therefore, no historic structures or archaeological resources would be affected by implementation of the Master Plan.

4.10.8 What Measures Would Be Taken To Reduce Impacts to Cultural Resources?

The Action Alternatives would have no effect on cultural resources, so no mitigation measures would be required for cultural resources.

4.11 VIEWSHEDS

4.11.1 Assessment Methodology

Implementation of the proposed Master Plan could affect the existing viewsheds to and from the MRC. Impacts to viewsheds were analyzed based on the characteristics and current conditions of the study area in comparison with site conditions to be expected following construction. Viewsheds were assessed using GIS to overlay proposed new construction with mapping of existing forested and landscaped areas.

The impact thresholds for viewsheds are provided in **Table 4-26**.

Table 4-26. Impact Intensity Thresholds for Viewsheds

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	No discernable changes to viewsheds. Vegetative disturbance would not result in changes to the viewsheds.	Slight, but detectable changes to viewsheds. Vegetative disturbance would be slight, but detectable.	Effect that is potentially major but with best practices and mitigation measures is reduced below major.	Highly noticeable changes to viewsheds that affect viewsheds to and from the MRC. Vegetative disturbance would be highly noticeable changes to the viewsheds.
Geographic Context	Campus-wide	Campus-wide	Regional	Regional
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

4.11.2 What Are the Existing Viewsheds at the MRC?

Previous development on the site established and maintained a 100- to 300-foot landscape buffer to separate the campus from neighboring residential properties. The vegetative buffer consists of a mix of deciduous and coniferous trees with thick ground cover. Topography and vegetative cover limit views into and out of the campus, particularly in the summer. Portions of the campus are visible from entry points, including the main entry on Muirkirk Road, the entry to the BRF on Odell Road just south of Muirkirk Road, and the entry to the animal quarantine facility farther southwest on Odell Road south of Springfield Road. Developed areas are more visible through the trees in winter, although views are still somewhat screened. Buildings are not visible above the tree line. Within the campus, each of the three facilities, as well as the major circulation routes are also surrounded by vegetation, limiting views to other parts of campus. More expansive views are present within the BRF and the adjoining Pasture D, and within the Animal Research Facility and adjoining Pastures A and B.

4.11.3 How Would Implementation of the Master Plan Affect Viewsheds To and From the Site?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Ongoing projects at the MRC would not affect viewsheds. The existing viewsheds would remain. Therefore, there would be no impacts to viewsheds.

Alternative A: Compact Campus

Under Alternative A, the new building north of MOD 1 would be visible from the main entrance at Muirkirk Road and would alter views. Most of the building volume would be screened by forested areas that form the perimeter landscape buffer (**Figure 4-27** through **Figure 4-29**). Because the new building north of MOD 1 would be visible, there would be discernable changes to the viewshed, resulting in a minor, long-term, adverse impact.

Figure 4-27. Alternative A View from Muirkirk Road Looking Southeast

Figure 4-28. Alternative A View from Muirkirk Road Looking East

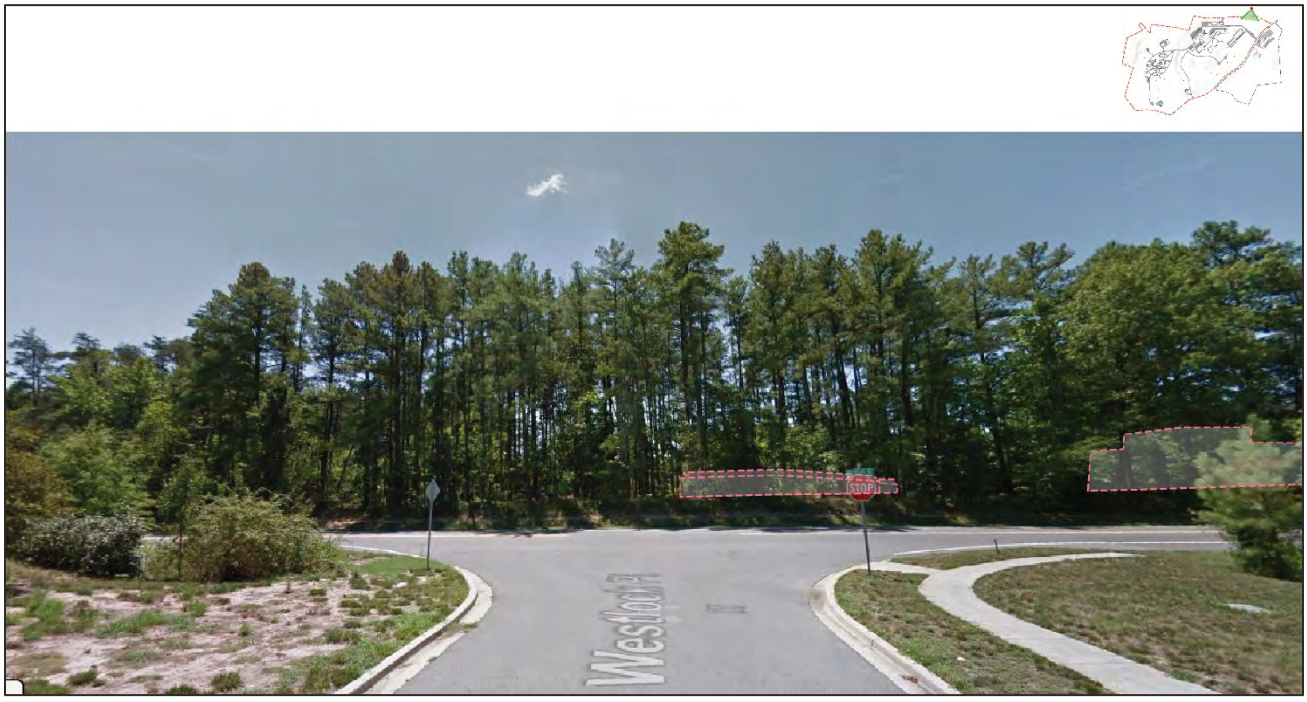


Figure 4-29. Alternative A View from Westlock Place Looking South

Alternative B: Dual Campus

Under Alternative B, buildings heights would remain within the range of MOD 1. Like Alternative A, the new building north of MOD 1 would be visible from the main entrance at Muirkirk Road. Most of the building volume would be screened by forested areas that form the perimeter landscape buffer (**Figure 4-30** through **Figure 4-32**). Because the new building north of MOD 1 would be visible, there would be discernable changes to the viewshed, resulting in a minor, long-term, adverse impact.

Figure 4-30. Alternative B View from Muirkirk Road Looking Southeast

Figure 4-31. Alternative B View from Muirkirk Road Looking East

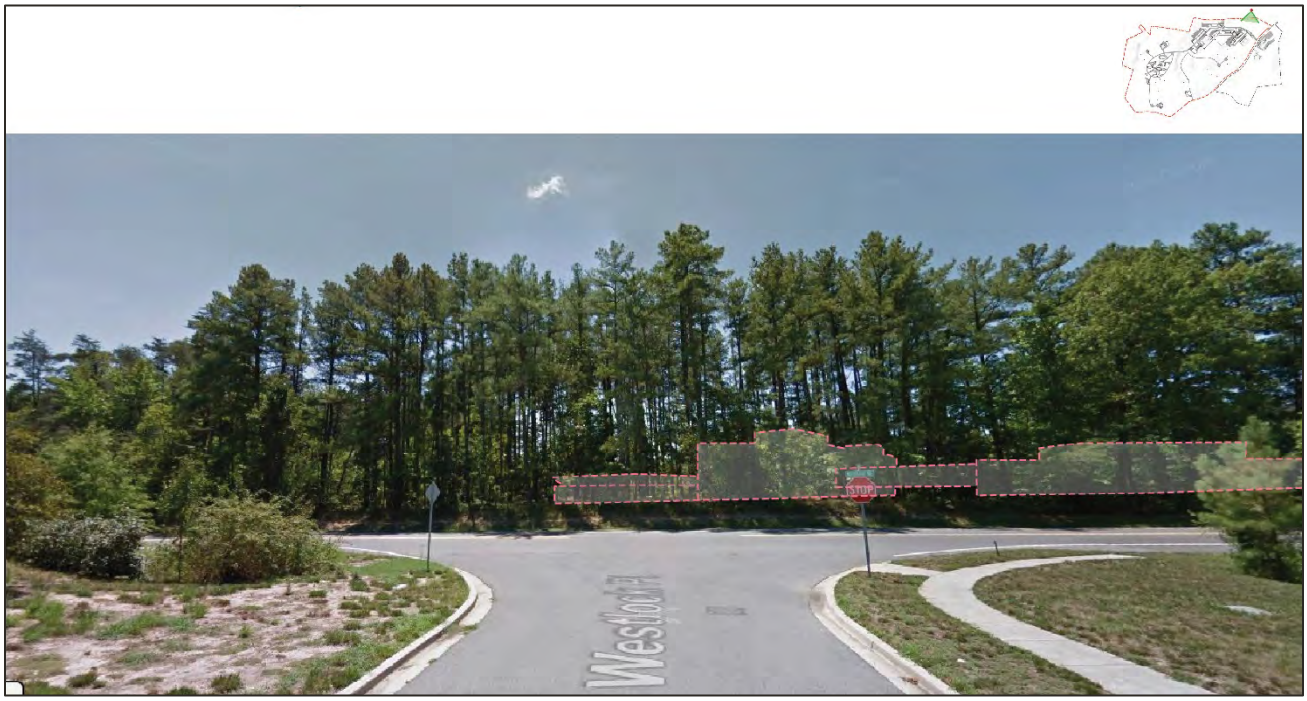


Figure 4-32. Alternative B View from Westlock Place Looking South

Alternative C: Northeast Campus

Under Alternative C, the building heights would be higher than the existing one-story buildings at the BRF site. The new buildings would be barely visible from the main entrance at Muirkirk Road as most of the building volume would be screened by forested areas that form the perimeter landscape buffer (**Figure 4-33** through **Figure 4-35**). The forested stream valley buffer would be visible from the main entrance at Muirkirk Road. While the building heights would be taller than the existing BRF building, there would be no discernable changes to the viewshed. The forested area along Odell Road would help screen the new buildings, resulting in a negligible, long-term, adverse impact.

Figure 4-33. Alternative C View from Muirkirk Road Looking Southeast

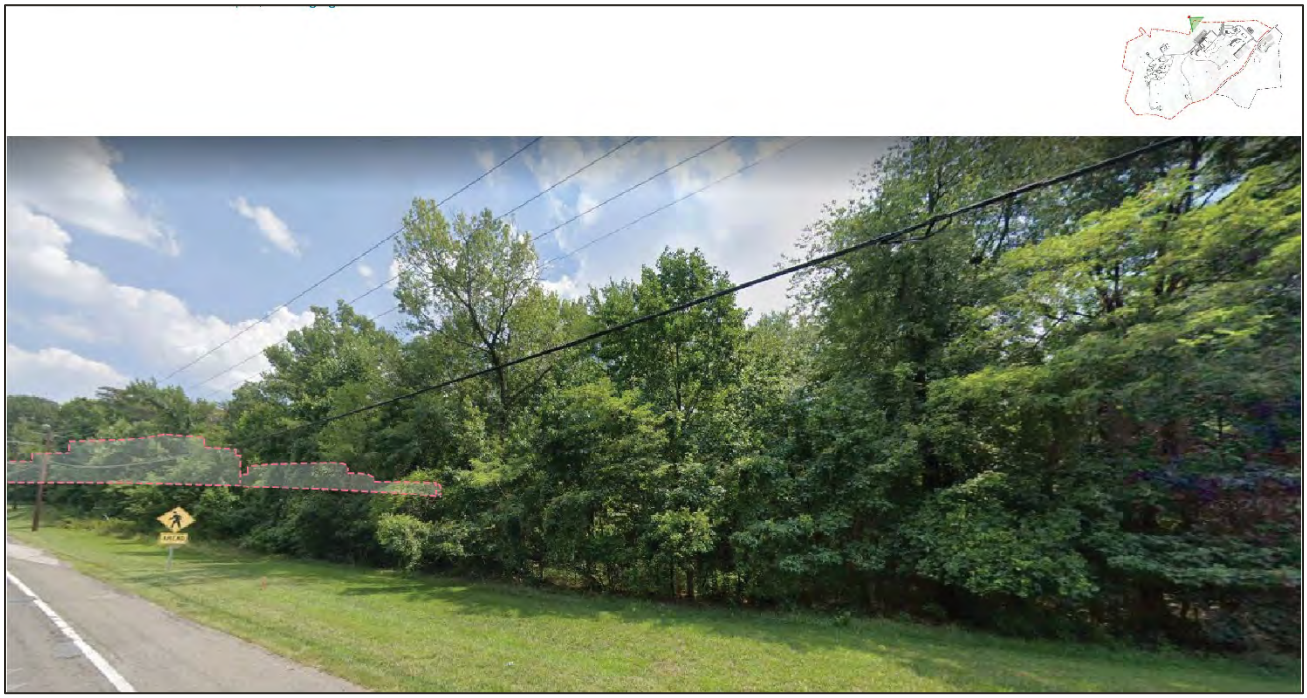


Figure 4-34. Alternative C View from Muirkirk Road Looking West

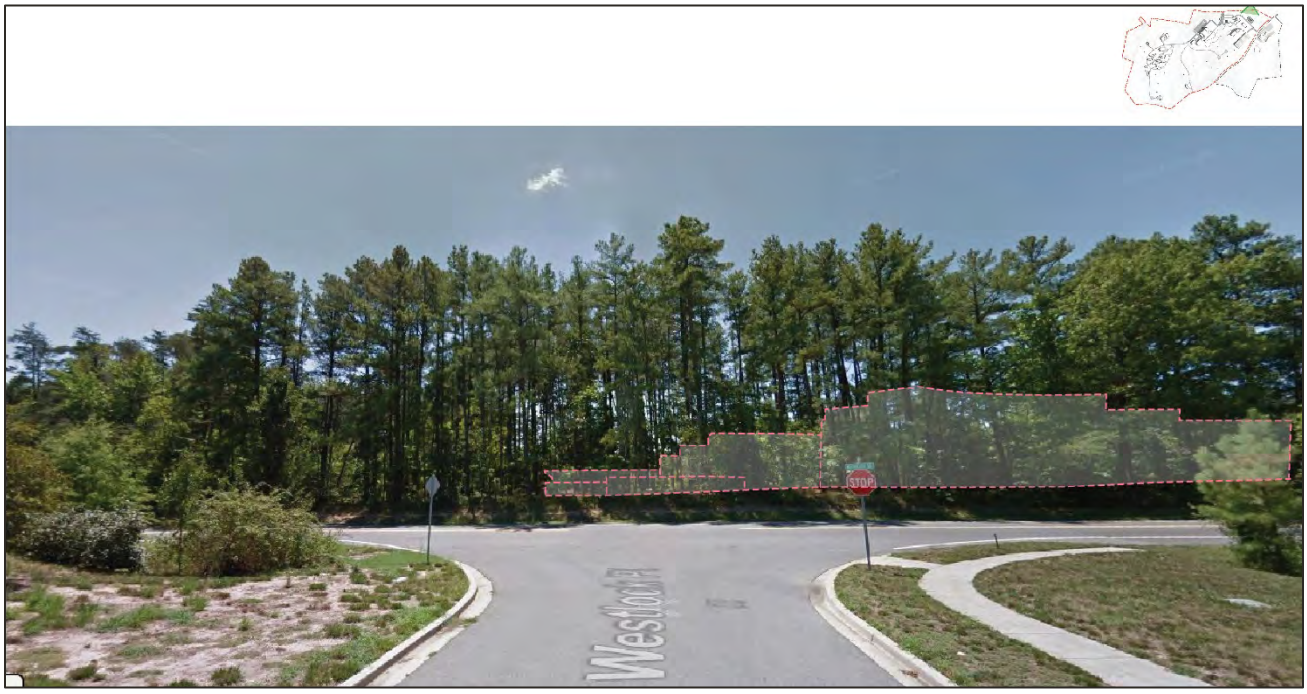


Figure 4-35. Alternative C View from Westlock Place Looking South

4.11.4 What Measures Would Be Taken To Reduce Impacts to Viewsheds?

The existing forested areas that form the perimeter landscape buffer would remain, which would continue to screen the MRC from the surrounding community; therefore, no mitigation measures are required.

4.12 LAND USE PLANNING AND ZONING

4.12.1 Assessment Methodology

The alternatives to the proposed action were compared to Federal and Prince George's County 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 4-27**.

Table 4-27. 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 discernable effects on the implementation of the plans The alternative would be consistent with zoning	Inconsistencies with land use plans would result in slight but detectable effects on the implementation of land use plans The alternative would be consistent with zoning	Effect that is potentially major but with mitigation measures is reduced below major	The alternative would be inconsistent with land use plans and would conflict 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

4.12.2 What Land Use Plans are in Effect On and Surrounding the MRC?

Federal Land Use Planning

The MRC is located within the National Capital Region (NCR). As such, the Master Plan will be reviewed by the NCPC for consistency with the Federal Elements of the *Comprehensive Plan for the National Capital*. The Federal Elements are driven by three guiding principles: to accommodate Federal and National Capital activities; to reinforce smart growth and sustainable development planning principles; and to support local and regional planning and development objectives. The eight Federal Elements include Urban Design; Federal Workplace; Foreign Missions & International Organizations; Transportation; Visitors &

Commemoration; Federal Environment; Historic Preservation; and Parks and Open Space. Of these, the following elements are applicable to the Master Plan:

Urban Design – This element promotes design and development in the NCR that reinforces its role as the capital and fosters a welcoming and livable environment. Specifically, Urban Design Policies C1 Inspiring Design: Individual Buildings and Campuses, C2 Integrating Federal Building and Campuses within the Surrounding Community, and C3 Urban Design and Security would apply to the MRC.

Federal Workplace – The goal of this element is to locate the Federal workforce in a manner that enhances the Federal Government's efficiency, productivity, value, and public image.

Transportation – This element seeks to develop a multimodal regional transportation system and increase regional mobility while avoiding degradation of the environment. Parking proposed in the Master Plan would occur at a 1:2 ratio, one parking space per two employees. The MRC is not located in areas that require a greater parking ratio as designated by the Transportation element.

Federal Environment – This element serves to promote the NCR as a leader in sustainability and environmental stewardship.

Historic Preservation – This element seeks to preserve, protect, and rehabilitate historic properties in the NCR.

Parks & Open Space – The Parks & Open Space element has the goal to protect and enhance parks and open spaces within the NCR for recreation, commemoration, and environmental and educational benefits.

Prince George's County Land Use Planning

The MRC is located within Prince George's County in Planning Area 62 – South Laurel / Montpelier, which in turn is part of Subregion 1. The approved Prince George's County Master Plan for Subregion 1 (*Subregion 1 Master Plan*) does not discuss the MRC or identify the study area for specific development (M-NCPPC, 2010b).

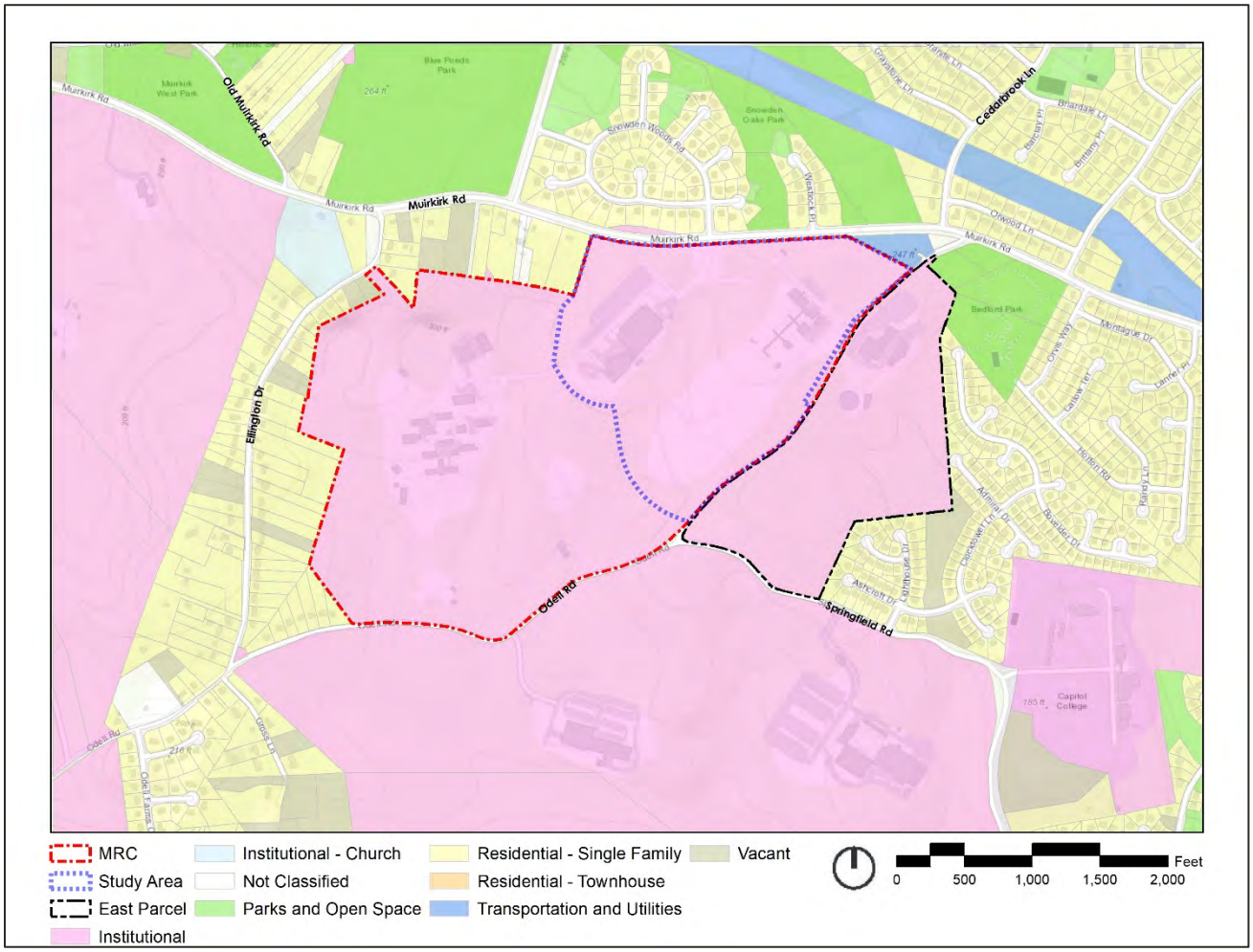
According to Prince George's County's *2035 Approved General Plan*, the MRC is an area with a land use designation of Institutional, which is defined by social, institutional, or public facilities (M-NCPPC, 2014).

Land surrounding the MRC is designated by Prince George's County as primarily single-family residential to the north, west, and east (**Figure 4-36**). BARC is located to the south and is designated as Institutional. In addition, there is a small area to the northeast of the MRC that is designated as Parks and Open Space.

4.12.3 What Zoning is in Effect On and Surrounding the MRC?

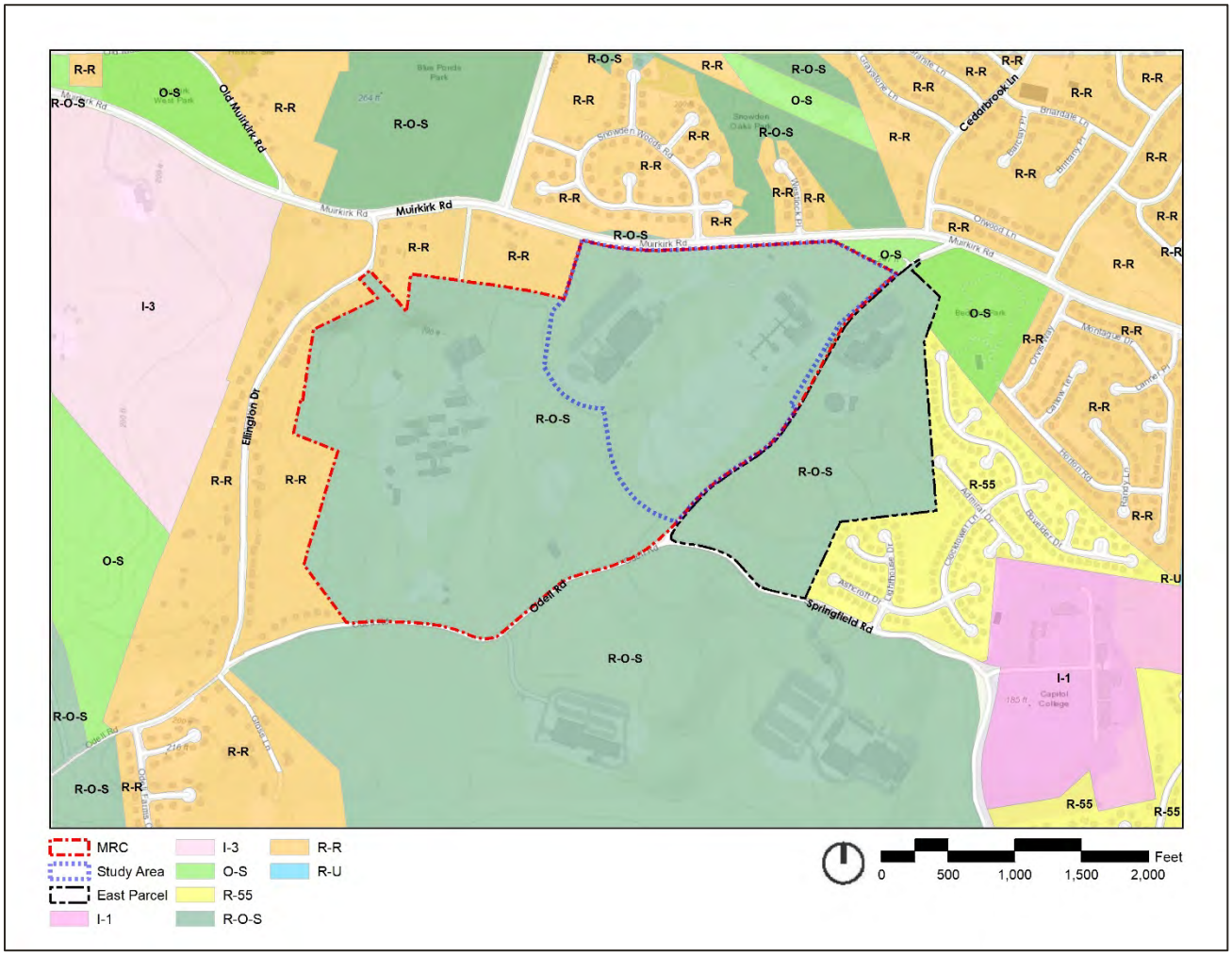
The MRC is currently zoned as Reserved Open Space (R-O-S). R-O-S zones encourage the preservation of agriculture, trees, and open space (**Figure 4-37**) (Prince George's County Planning Department, 2019). However, it should be noted that Federal properties are not subject to county land use or zoning regulations (M-NCPPC, 2010b).

Zoning in the immediate area around the MRC includes R-O-S, Rural-Residential, One-Family Detached Residential, and Agricultural and Preservation. The proposed MRC Master Plan is not anticipated to affect the surrounding land use or zoning designations.



Source: M-NCPPC, 2014

Figure 4-36. Prince George's County Land Use Plan



Source: Prince George's County Planning Department, 2019

Figure 4-37. Zoning in the Vicinity of the MRC

4.12.4 What Development is Planned Near the MRC?

New developments are planned and under construction in the vicinity of the MRC (**Table 4-28**). **Figure 4-38** shows their location in relation to the MRC and the driving distance from the MRC. These projects will continue the trend of new development in the area and will lead to changes in the land use and land cover in the area.

Table 4-28. Planned/Ongoing Development Near the MRC

Development Project	Status	Land Use	Description
FDA Federal Research Center (FRC) Master Plan	Planned/ Approved	Institutional	Master Plan that provides a framework for development at the Federal Research Center for up to 18,000 employees and up to an additional 1.6 million gsf of office space and 377,382 gsf of special/shared use space. The FRC is approximately 10.9 driving miles west from the MRC (GSA, 2018).
Konterra Town Center	Planned	Mixed-Use	Mixed-use development on 2,200 acres of retail, research, and technology campuses including 1.4 million sf of building space, more than 1,000 residential units, and 348 acres reserved for a governmental, educational, or corporate facility. This site is 1.9 driving miles northwest of the MRC (KLNB, 2021).
The Brick Yard	Under Construction	Mixed-Use	125-acre development bordering U.S. 1 between Muirkirk Road and Contee Road. The Urban Industrial space will include 700,000 sf of multi-purpose industrial buildings on 70 acres. 50-acres of the site is under construction for residential uses as Brick Yard Station and the Mark at Brick Yard, which includes 397 apartments. This site is 2.3 driving miles northwest of the MRC (JacksonShaw, 2021).
Bureau of Engraving & Printing (BEP)	Planned/Under Consideration	Institutional	Construction of an approximate one million sf Currency Production Facility on 100 acres at the BARC. This site is 1.6 driving miles south of the MRC (USACE, 2020).
BARC Demolition	Planned	Institutional	Demolition of 22 buildings and associated infrastructure at BARC. This site is 4.3 driving miles south of the MRC (USDA-ARS, 2020).
High-Speed Superconducting Magnetic Levitation (MAGLEV) System	Planned/Under Consideration	Transportation	Highspeed train line between Baltimore, MD and Washington, DC with a stop at the Baltimore-Washington Thurgood Marshall Airport. This would be located 1.1 driving miles east of the MRC (MDOT MTA, 2021).
Maryland Army National Guard Recruiting Center	Under Construction	Institutional	The recruiting center located adjacent to the MRC east of Odell Road is currently constructing an additional parking lot. The Site is 0.5 driving miles east of the MRC.

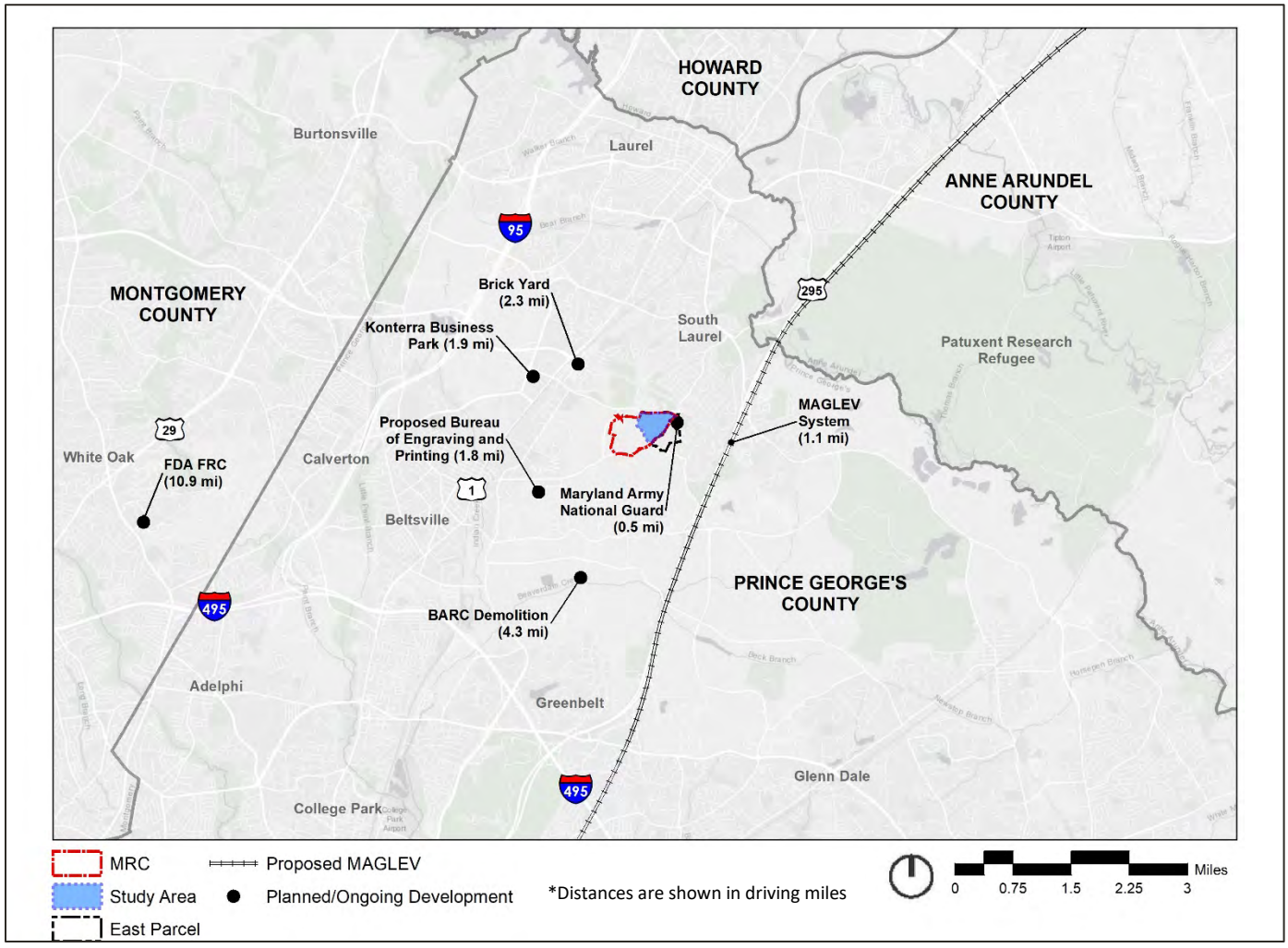


Figure 4-38. Planned/Ongoing Developments Near the MRC

4.12.5 Is the MRC Master Plan Consistent with Land Use Plans and Zoning Regulations?

No-Action Alternative

Under the No-Action Alternative, the proposed Master Plan would not be implemented. Land use and zoning designations on the site would not change. The MRC would continue to house 300 employees, and any additional employees would need to be housed by FDA at other facilities or leased properties. This would be inconsistent with the Federal Elements of the *Comprehensive Plan for the National Capital* – in particular, the Federal Workplace element, which seeks the use of existing Federal property over the development of new properties. In addition, existing space within the MRC would remain underutilized. Therefore, the No-Action Alternative would result in no new impacts, resulting in a negligible, long-term, adverse impact.

Alternatives A, B, and C (Action Alternatives)

The Action Alternatives would be consistent with Prince George's County's land use designation and the applicable Federal Elements of the *Comprehensive Plan for the National Capital*. The applicable Federal

Elements are the Urban Design, Federal Workplace, Transportation, Federal Environment, Historic Preservation element, and Parks & Open Space elements.

The Master Plan is consistent with the Urban Design element by utilizing shared facilities, enhancing the site's natural features, minimizing land coverage, using surface parking lots as building pads, and fostering transportation solutions to minimize the need for parking. Specifically, Urban Design Policies C1: Inspiring Design – Individual Buildings and Campuses, C2: Integrating Federal Building and Campuses within the Surrounding Community, and C3: Urban Design and Security would apply to the MRC. The Master Plan would reinforce the campus's image, preserve open space, and provide security measures that would match the context of the campus by enabling the landscape to perform necessary exterior security measures and strengthening the cohesion between existing and proposed structures within the landscape.

The Master Plan would be consistent with the Federal Workplace Element by increasing the number of Federal employees that can be housed at an existing property. The MRC is an existing Federal property that would be further developed, therefore not requiring the purchase or leasing of additional land. One of the goals of the Master Plan is to foster FDA's image as a leading scientific institution, which complies with the Federal Workplace policy of promoting pride and purpose for the agency's mission. In addition, the security measures at the MRC would not be altered in a way that would interrupt visual resources.

The Master Plan complies with the Transportation Element by fostering transportation solutions, such as subsidizing carpooling and allowing both metro and county bus access. A Transportation Management Plan (TMP) has been developed to provide transportation demand management strategies to lessen the use of single-occupancy vehicles. This would help alleviate congestion on area roadways and improve air quality, which is consistent with both the Transportation and Federal Environment elements.

The Master Plan is consistent with the Federal Environment element by fostering environmental stewardship through protecting the tree canopy, maintaining biodiversity, minimizing runoff through innovative stormwater practices, incorporating solar panels and green roofs, and minimizing land coverage. All Action Alternatives would be constructed and operated in an energy efficient and sustainable manner, meeting LEED® Gold certification and net zero energy and water usage, which is consistent with the Federal Environment element.

Since there are no historic resources within the study area, the Master Plan would be consistent with the Historic Preservation element.

The MRC Master Plan Goals include preserving open space, enhancing the site's natural features, and providing environmental stewardship. The future campus is envisioned as an eco-focused collaborative campus. Strategies to achieve this include utilizing the site's natural features as an amenity to preserve and protect the stream valley and creating a variety of exterior common spaces, including elevated boardwalk trails and overlooks. Therefore, the Master Plan complies with the policies of the Parks & Open Space element.

Development on the MRC is not specifically discussed in the *Subregion 1 Master Plan*. However, the Action Alternatives would support the *Subregion 1 Master Plan*'s major goals by encouraging economic development and preserving the environment through the proposed stewardship at the MRC.

The MRC is currently designated under Institutional land use according to Prince George's County's 2035 Approved General Plan. Under the Action Alternatives, the MRC would continue its institutional use and would not require a change in land use designation. The proposed Master Plan would not alter the existing

land use in the vicinity of the MRC, which is primarily comprised of residential and commercial land uses. The MRC has operated in congruence with surrounding land uses and would continue to do so under the Action Alternatives.

The MRC is zoned as R-O-S, which is generally applied to Federal and State properties in Prince George's County (M-NCPPC, 2010b). There would be no change in the site's zoning designation as a result of the Action Alternatives, and the Action Alternatives would not impact zoning designations for properties surrounding the MRC.

Since the Action Alternatives would comply with the relevant Federal Elements of the *Comprehensive Plan for the National Capital* and the goals of the *Subregion 1 Master Plan*, and because land use and zoning designations would not change, implementation of the proposed Master Plan would not impact land use planning and zoning.

4.12.6 What Measures Would Be Taken to Minimize Impacts on Federal and Local Planning and Zoning Ordinances?

No measures are proposed as the Action Alternatives would be consistent with Federal and local planning and zoning.

4.13 COMMUNITY FACILITIES

4.13.1 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 4-29**.

Table 4-29. 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

4.13.2 What Community Facilities Are In The Vicinity Of The MRC?

Community facilities located near the MRC are shown on **Figure 4-39**. The distance of the community facilities from the MRC are included in **Table 4-30**.

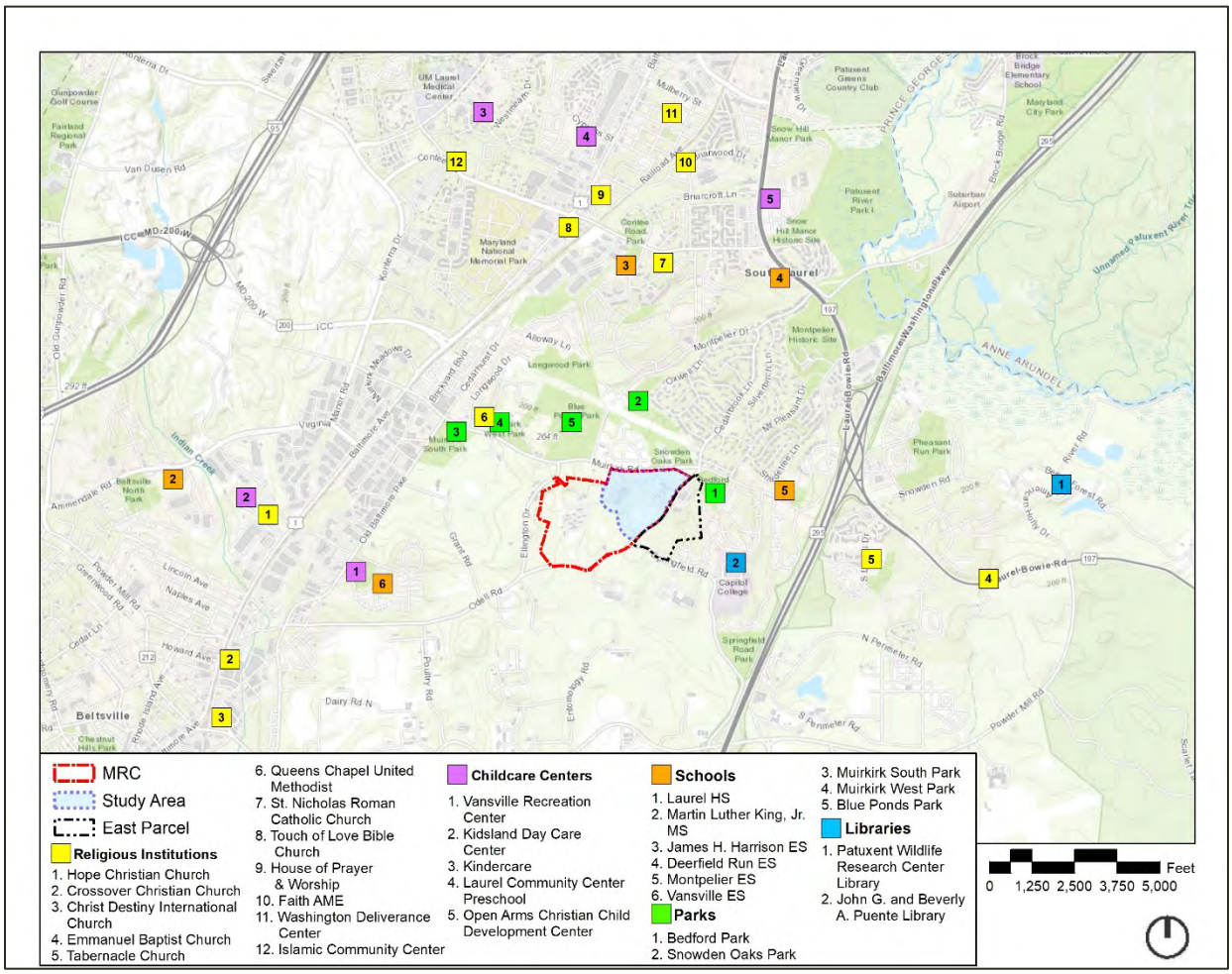


Figure 4-39. Community Facilities

Table 4-30. Community Facilities in the Vicinity of the MRC

Community Facility	Distance from the MRC (miles)
Schools	
Montpelier Elementary School	0.5
Vansville Elementary School	0.9
James H. Harrison Elementary School	1.2
Deerfield Run Elementary School	1.2
Martin Luther King, Jr. Middle School	2.1
Laurel High School	2.6
Parks, Recreation, and Open Space	
Bedford Park	0.1
Blue Ponds Park	0.3
Snowden Oaks Park	0.4
Muirkirk West Park	0.4
Muirkirk South Park	0.6
Libraries	
John G. and Beverly A. Puente Library	0.2
Patuxent Wildlife Research Center Library	2.0
Childcare Centers	
Vansville Recreation Center	1.1
Open Arms Christian Child Development Center	1.6
Kidsland Day Care Center	1.7
Laurel Community Center Preschool	1.9
Kindercare	2.1
Religious Institutions	
Queens Chapel United Methodist	0.5
Tabernacle Church	1.0
St. Nicholas Roman Catholic Church	1.2
Touch of Love Bible Church	1.4
House of Prayer & Worship	1.5
Hope Christian Church	1.5
Emmanuel Baptist Church	1.6
Faith AME	1.7
Crossover Christian Church	1.8
Islamic Community Center	1.9
Christ Destiny International Church	2.0
Washington Deliverance Center	2.0

Source: PG Atlas, 2021

Parks, Recreation, and Open Space

There are over 27,000 acres of parkland in Prince George's County, which includes parks, picnic areas, fields, and recreation centers. There are five parks within two miles of the MRC: Bedford Park, Snowden Oaks Park, Blue Ponds Park, Muirkirk West Park, and Muirkirk South Park (PG Atlas, 2021).

According to the Prince George's County Formula 2040 Functional Master Plan for Parks, Recreation, and Open Space, the region of Prince George's County where the MRC is located has sufficient park space to meet the needs of the increase in population at the MRC (PG Parks, 2021b).

PARKS, RECREATION AREAS, AND OPEN SPACE

- Bedford Park (8901 Horton Road, Laurel)
  - Walking trails
- Blue Ponds Park (Muirkirk Road, Laurel)
  - Nature preserve and pond
- Snowden Oaks Park (8301 Montpelier Drive, Laurel)
  - Basketball courts, playground, and tennis courts
- Muirkirk West Park (7410 Old Muirkirk Road, Beltsville)
  - Wooded with picnic tables
- Muirkirk South Park (7403 Muirkirk Road, Beltsville)
  - Provides a baseball/softball field, open space, playground, picnic tables, and grills

Source: PG Parks, 2021a

Schools

The Prince George's County Public Schools (PGCPS) system serves over 130,000 students and is the nation's 20th largest school district. There are 204 schools and centers in the Prince George's County public school system, including 123 elementary schools, 24 middle schools, 23 high schools, 12 academies, nine special centers, two vocational centers, three alternative schools, and eight public charter schools. The neighborhoods surrounding the MRC are served by District 1 of the PGCPS. The schools that would serve the areas closest to the MRC include Montpelier Elementary, Vansville Elementary, Deerfield Run Elementary, James H. Harrison Elementary, Martin Luther King, Jr. Middle, and Laurel High (PGCPS, 2021).

According to the PGCPS Approved Fiscal Year 2021 *Educational Facilities Master Plan*, all schools that serve the area around the MRC will be over capacity by FY 2021, with the exception of Montpelier Elementary, Vansville Elementary, and James H. Harrison Elementary. To address these capacity issues, the PGCPS Approved FY 2021 *Educational Facilities Master Plan* proposes a new high school, two new middle schools, and one new elementary school in Prince George's County (PGCPS, 2021).

Childcare Centers

There are five childcare centers located near the MRC – Vansville Recreation Center, Kidsland Day Care Center, Kindercare, Laurel Community Center Preschool, and Open Arms Christian Child Development Center. Additionally, several schools in the vicinity offer childcare services, including the Deerfield Run Community Center Kid's Care, the YMCA at Vansville Elementary, and Montpelier Elementary Before and After School Age Care (PG Atlas, 2021).

Libraries

Two libraries are near the MRC: the John G. and Beverly A. Puente Library and the Patuxent Wildlife Research Center Library. The John G. and Beverly A. Puente Library is 0.25 miles southeast of the MRC and is part of the Capitol Technology University system. The Patuxent Wildlife Research Center Library is associated with the USGS research center, approximately two miles to the east of the MRC, and is open to the public (PG Atlas, 2021).

Religious Institutions

Two religious facilities are within a mile of the MRC: Queen's Chapel United Methodist Church, located 0.4 miles northwest, and the Tabernacle Church of Laurel, Maryland, 1 mile to the east. There are ten additional religious institutions within 2 miles of the MRC (PG Atlas, 2021).

4.13.3 How Would Implementation Of The Master Plan Affect Local Community Facilities?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. As there would be no increase in staffing, there would be no additional demand for community facilities in the area of the MRC. FDA employees would continue to use community facilities at the same rate as they do currently; therefore, there would be no impact under the No-Action Alternative.

Alternatives A, B, and C (Action Alternatives)

Under the Action Alternatives, the MRC would be developed and eventually house 1,800 employees and support staff. Some employees may relocate to the vicinity of the MRC from outside of the region, and these employees may utilize community facilities, including schools, libraries, parks, medical facilities, childcare centers, and religious facilities. The libraries, parks, medical facilities, and religious facilities may see a slight increase in use, but it would not likely exceed the capacity of these facilities, as there are numerous within the area and would be sporadically accessed. Many of the current schools in the vicinity are expected to reach capacity by FY 2021; however, several new schools are currently planned in order to meet the growing needs of the region (PGCPS, 2021). Since there could be new employees at the MRC that may have school-aged children, there would be a slight adverse impact from the increased demand for educational facilities. This impact would be lessened once the new schools are operational and able to meet the increasing need in the region. Similarly, there would be an increased demand for childcare from new employees at the MRC who have children who are not yet school-aged. These employees may potentially require the use of the childcare centers in the area. These facilities would be able to meet the increased demand from the additional population at the MRC; therefore the Action Alternatives would result in negligible, long-term, adverse to community facilities.

4.13.4 What Measures Would Be Taken To Reduce Impacts On Local Community Facilities?

No mitigation measures would be required for community facilities because these facilities would be able to meet the increased demand from the additional population at the MRC.

4.14 SAFETY AND SECURITY

4.14.1 Assessment and Methodology

The alternatives were qualitatively assessed to determine if they would result in changes to the safety and security of the MRC and surrounding areas through the increase or decrease in availability and use of these services.

The impact thresholds for safety and security are provided in **Table 4-31**.

Table 4-31. Impact Intensity Thresholds for Safety and Security

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

4.14.2 What Fire and Emergency Medical Services, Police, and Medical Facilities Serve the MRC?

The MRC is served by local fire protection, emergency medical services (EMS), police stations, and medical facilities in Prince George's County (**Figure 4-40**).

Fire Protection and EMS

The Prince George's County Fire and EMS Department is comprised of 45 stations divided into seven battalions and responded to over 145,000 service calls in 2018 (PG County, 2021a and Office of Audits and Investigations, 2018a). The Prince George's County Fire and EMS that would serve the MRC are part of Battalion 6, which serves all communities within the general vicinity of Laurel, Greenbelt, Beltsville, and Berwyn Heights. The nearest fire stations to the MRC are Company 831 Beltsville Volunteer Fire Department and Company 849 Laurel Volunteer Rescue Squad (**Table 4-32**) (PG County, 2021a).

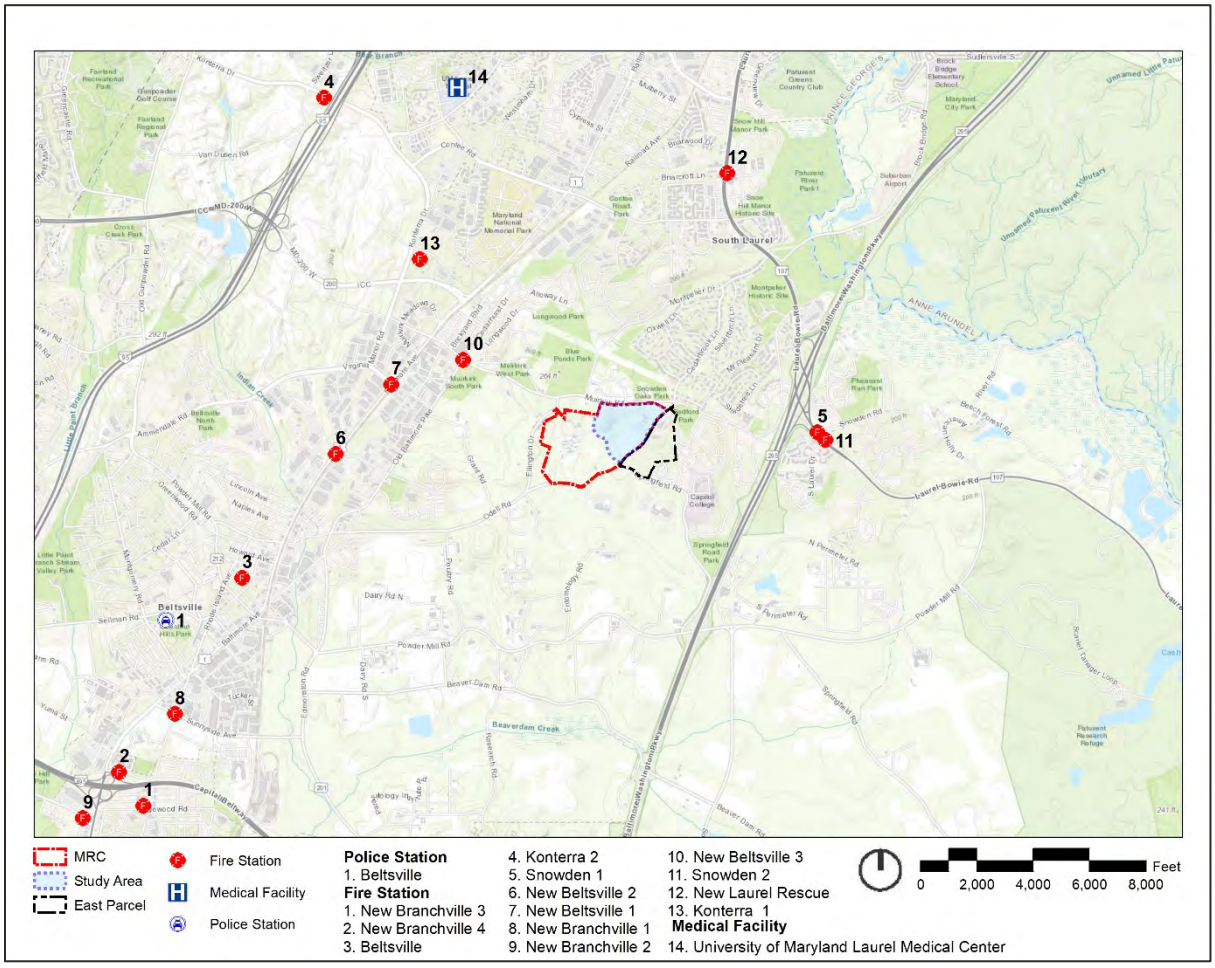


Figure 4-40. Emergency Services Within the Vicinity of the MRC

Table 4-32. Fire/EMS, Police, and Medical Facilities Near the MRC

	Address	Distance to MRC (miles)
Fire/EMS Stations		
831 Beltsville Volunteer Fire Department	4911 Prince Georges Ave Beltsville, MD 20705	4.4
Company 849 Laurel Volunteer Rescue Squad	14910 Bowie Road Laurel, MD 20707	3.7
Police Stations		
District 6 Station – Beltsville	4321 Sellman Road Beltsville, MD 20705	5.0
Maryland State Police at Barrack Q – College Park	10100 Rhode Island Avenue College Park, MD 20740	5.3
Medical Facilities		
University of Maryland Laurel Medical Center	7300 Van Dusen Rd Laurel, MD 20707	4.0

Police

The Prince George's County Police Department employs over 1,500 police officers and 300 civilians. There are eight police districts within Prince George's County. The MRC is served by the District 6 Station located at 4321 Sellman Road in Beltsville (PG County, 2021b). District 6 responded to 47,732 calls for service in 2017 (Office of Audits and Investigations, 2018b). Additionally, Prince George's County is served by the Maryland State Police at Barrack Q – College Park.

Crime in Prince George's County has been increasing from 2018 to 2020 (PG County, 2021c). Four percent of the crime within Prince George's County in 2020 occurred within District 6 where the MRC is located, which is a decrease from 2019, in which 6.5 percent of the crime within Prince George's County occurred within District 6 (PG County Data, 2021). Crime statistics from Prince George's County and District 6 are provided in **Table 4-33**.

Table 4-33. Crime Statistics by Category (2018 - 2020)

Crime Type	Number of Incidents in Prince George's County (2018 – 2020)				Number of Incidents in District 6 (2018 – 2020)			
	2018	2019	2020	Trend	2018	2019	2020	Trend
Homicide	62	57	94	↑	4	5	1	↓
Sex Offense	201	144	117	↓	21	11	9	↓
Robbery	725	864	962	↑	30	43	39	↔
Assault	911	975	1,061	↑	10	10	12	↑
Burglary	1,748	1,232	1,220	↓	73	75	43	↓
Larceny/Theft	10,949	9,566	9,928	↑	604	561	417	↓
Motor Vehicle Theft	91	109	185	↑	157	149	87	↓
Arson	56	139	83	↓	No data	No data	No data	
TOTAL	14,843	13,116	13,650		899	854	608	

Source: PG County, 2021c

Medical Facilities

In Prince George's County, there are seven hospitals (Luminis, 2021). The closest medical facility is the University of Maryland Laurel Medical Center which is located 4 miles from the site (**Figure 4-40**). The Medical Center provides 24/7 emergency care, along with short stay observation, outpatient surgery, outpatient behavioral health issues. In addition, to the services provided at the Medical Center, additional health care services are provided in the Medical Office Building on the campus (UMMS, 2021).

4.14.3 What Security Measures are Currently Provided at the MRC?

The MRC is currently fenced and monitored 24 hours per day, seven days per week by the Federal Protective Service (FPS). Access to the MRC is provided off Muirkirk Road and a secondary access to the eastern portion of MRC is available from Odell Road. Access to the MRC is restricted to GSA and FDA personnel, support staff, and approved visitors.

The MRC is surrounded by a 11-foot chain-link security fence topped with barbed wire and is monitored by the FPS and is restricted to FDA and GSA personnel and screened visitors. A screening facility for employees, visitors, and delivery trucks is located on the north side of the campus, along Muirkirk Road. An additional

security gate is located on the east side of the campus along Odell Road. Employees and visitors entering the campus must go through a vehicle check point and provide identification. Once inside the campus, visitors must go through additional security screening. The MRC has additional 8-foot chain-link fence topped with barbed wire throughout the interior of the campus.

4.14.4 Would Safety and Security in the Area of the MRC be Affected by Implementation of the Master Plan?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. FPS campus security would remain the first emergency personnel to respond to incidents on the MRC. Therefore, there would be no change in the volume of calls for fire, EMS, or police from outside the MRC, and no increased demand for medical facilities under the No-Action Alternative.

Alternatives A, B, and C (Action Alternatives)

Under all Action Alternatives, there would be an increase in the commuter population to the area surrounding the MRC, which could result in a potential increase in the number of calls for police response. Increased calls for service could create a potential need for additional deployment of officers from District 6, additional fire/EMS services, and medical facilities. As the Master Plan is implemented, FDA would coordinate with local fire/EMS and police to ensure that designs incorporate access for emergency vehicles for new facilities to accommodate tactical positioning during emergency events. Because the increases in calls as a result of the Action Alternatives would not be discernable, the Action Alternatives would have a negligible, long-term, adverse impact.

4.14.5 What Impact Would the Master Plan have on Safety and Security at the MRC?

No-Action Alternative

Under the No-Action Alternative, the proposed Master Plan would not be implemented. The MRC would continue to house 300 employees, and any additional employees and support staff would need to be housed by FDA at other facilities or leased properties. Current security measures and procedures would continue. Access to the MRC would continue to be restricted to Federal employees and approved visitors. No impacts to safety and security at the MRC are anticipated.

Alternatives A, B, and C (Action Alternatives)

During construction, a health and safety plan would be put in place to protect construction workers from potential construction hazards and any potential environmental contamination. Employees and visitors would not have access to construction zones to ensure their safety. This would protect visitors and employees at the MRC.

Under all Action Alternatives, newly constructed buildings would be designed to achieve Interagency Security Committee (ISC) Level III requirements (**Figure 4-41, Figure 4-42, Figure 4-43**). Access to the site is granted through the main entrance at Muirkirk Road and a secondary entrance at Odell Road. Both entrances would be gated, and employees and visitors would have to pass through a security check point to

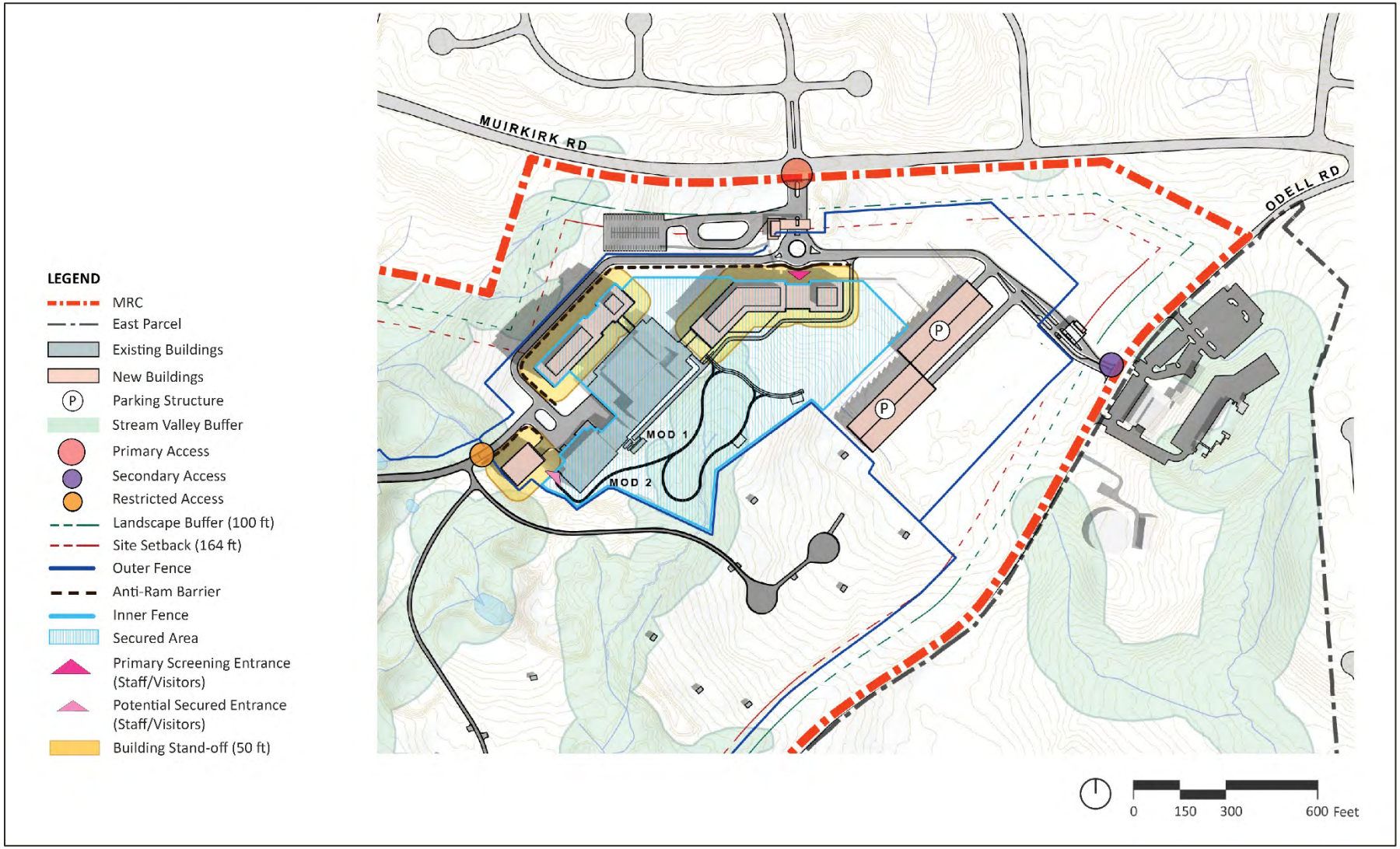


Figure 4-41. Security Design for Alternative A

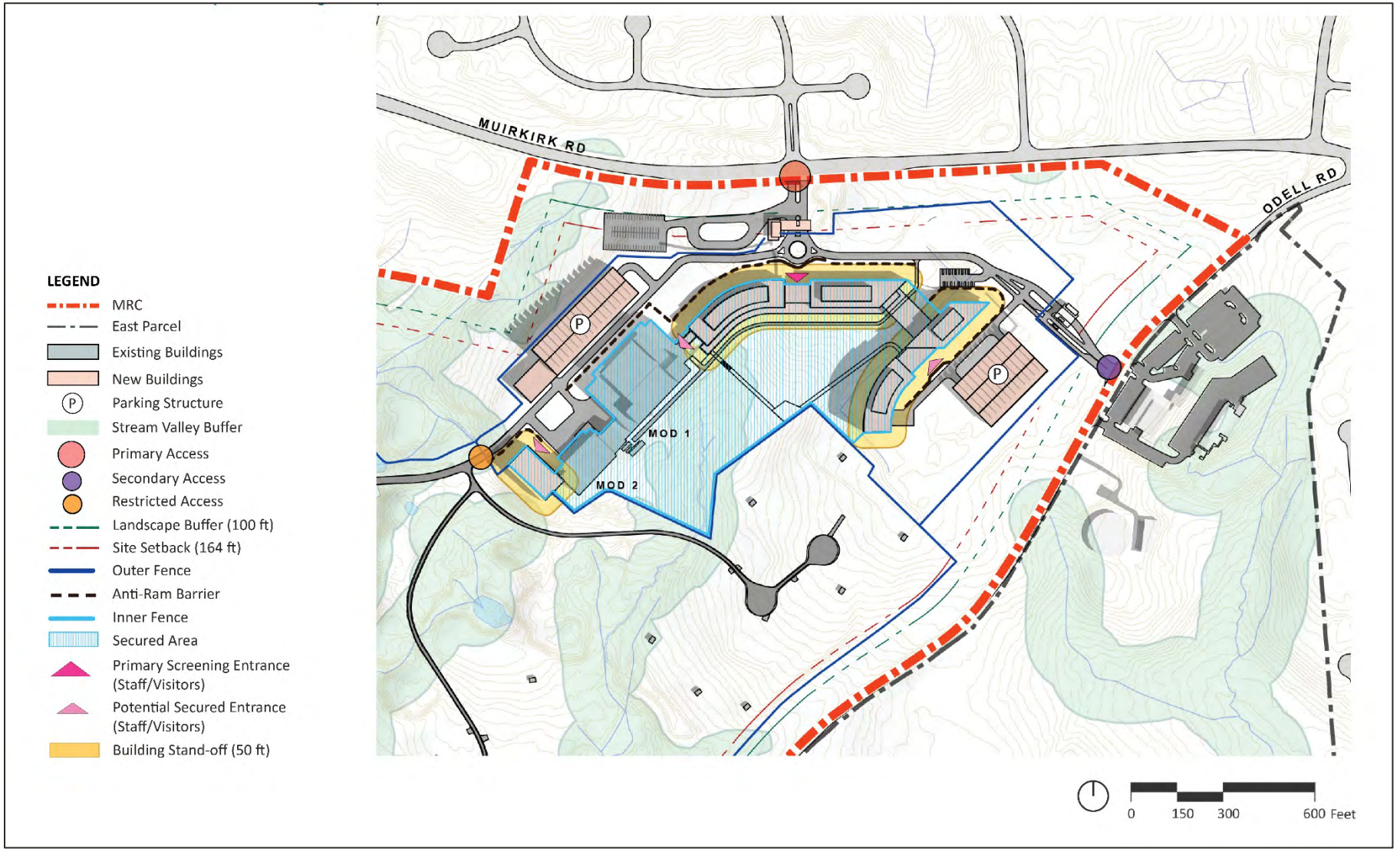


Figure 4-42. Security Design for Alternative B

Figure 4-43. Security Design for Alternative C

access the campus. Once inside the campus, everyone would be screened to gain access to the campus grounds and buildings. The campus security design for the Master Plan is based on establishing multiple tiers of security for both vehicles and pedestrians. Enhanced security measures described below would result in beneficial impacts to the safety and security of visitors and employees at the MRC.

4.14.6 What Measures Would be Taken to Enhance Safety and Security?

A health and safety plan would be put in place to protect construction workers from potential construction hazards and any potential environmental contamination. Employees, support staff, and visitors would not have access to construction zones to ensure their safety. Measures that are taken to provide a secure campus include:

- A 50-foot security buffer between roads and buildings
- Extending and enhancing perimeter fencing to accommodate the new development
- Access control equipment
- Intrusion detection devices
- Site lighting
- Security controlled pathways

4.15 ECONOMY AND EMPLOYMENT

4.15.1 Assessment Methodology

Implementation of the proposed Master Plan could affect economic conditions within Maryland. 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 and employment are provided in **Table 4-34**.

Table 4-34. Impact Intensity Thresholds for Economy and Employment

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable decreases in spending, employment levels, or personal income	Slight, but detectable decreases in spending, employment levels, or personal income	Effect that is potentially major but with mitigation measures is reduced below major	Substantial decreases in spending, employment levels or personal income
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

4.15.2 What is the Economic Make-Up of Prince George's County?

Industries contributing to the economic make-up of Prince George's County are listed in **Table 4-35**. The largest industry, on average, in these census BGs are Prince George's County educational services and health care and social services, accounting for employment of 21.3 percent of the working population (U.S. Census Bureau, 2019h). The public administration industry accounts for 13 percent of the workforce, and the professional, scientific, and management, and administrative and waste management services industry accounts for 15.2 percent of the workforce. Other prominent industries in Prince George's County include construction; retail trade; and arts, entertainment, and recreation, and accommodation and food services (U.S. Census Bureau, 2019h).

On average, the economic make-up of the census BGs including the MRC or adjacent to the MRC is comparable to that of the county (**Table 4-36**). The largest industry on average in the census BGs is the educational services and health care and social services industry, comprising 32.6 percent of the civilian employed workforce. The professional, scientific, and management, and administrative and waste management services industry is the second largest industry on average among the surveyed CTs, accounting for 16.1 percent of the workforce. Other prominent industries within the CTs include the public administration industry, which on average accounts for 11 percent of the working civilian population, and the construction and retail industries, which averages 7.4 percent and 6.5 percent of the employed civilian population, respectively (U.S. Census Bureau, 2019n).

Table 4-35. Employment by Industry (%)

Industry Type	Prince George's County	Study Area	CT 8002.08 BG 2[a]	CT 8002.08 BG 3[b]	CT 8074.08 BG 1[c]	CT 8074.08 BG 3
Agriculture, forestry, fishing and hunting, and mining	0.2	0.0	0.0	0.0	0.0	0.0
Construction	9.8	7.4	7.2	3.2	14.1	4.6
Manufacturing	1.9	5.3	5.2	3.8	4.2	8.6
Wholesale Trade	1.1	0.4	0.5	1.1	0.0	0.0
Retail Trade	8.5	6.5	8.1	10.4	3.0	2.0
Transportation and Warehousing, and Utilities	6.8	5.0	5.1	5.7	6.9	1.6
Information	1.7	3.2	1.8	1.4	8.8	2.3
Finance and Insurance, and Real Estate and Rental and Leasing	4.4	3.7	1.2	12.9	0.7	3.9
Professional, Scientific, and Management, and Administrative and Waste Management Services	15.2	16.1	16.0	12.6	19.6	15.9
Educational Services, and Health Care and Social Services	21.3	32.6	34.1	32.9	25.7	36.2
Arts, Entertainment, and Recreation, and Accommodation and Food Services	9.7	3.9	6.4	0.0	5.3	0.0
Other Services, except Public Administration	6.4	4.9	5.4	0.9	5.9	6.9

Industry Type	Prince George's County	Study Area	CT 8002.08 BG 2[a]	CT 8002.08 BG 3[b]	CT 8074.08 BG 1[c]	CT 8074.08 BG 3
Public Administration	13.0	11	9.0	15.1	5.8	18.0

Source: U.S Census Bureau, 2019h and U.S. Census Bureau, 2019n

[a] Census BGs that include or are adjacent to the MRC

[b] Census BGs that include the MRC

Table 4-36. Economic Characteristics

	Unemployment Rate	Median Household Income	Population Below Poverty Level
Maryland	3.6%	$86,738	9.0%
Prince George's County	3.8%	$86,290	8.6%
CT 8002.08, BG 2	1.3%	$126,917	4.6%
CT 8002.08, BG 3	10.7%	$106,339	1.6%
CT 8074.08, BG 1	6.9%	$98,321	2.9%
CT 8074.08, BG 3	1.5%	$110,066	0%

Sources: Maryland State Archives, 2020; U.S. Census Bureau, 2019f; U.S. Census Bureau, 2019g; U.S. Census Bureau 2019i; U.S. Census Bureau, 2019j; and U.S. Census Bureau, 2019c

The largest employer in Prince George's County is the University System of Maryland, with 20,250 employees. In addition, Prince George's County has multiple Federal facilities due to its proximity to Washington, DC. Federal facilities in Prince George's County include the U.S Internal Revenue Service, the U.S. Census Bureau, and the NASA Goddard Space Flight Center. The largest Federal employer in the county is Joint Base Andrews Naval Air Facility Washington, which employs 17,500 employees (MDOC, 2019). In 2019, the unemployment rate in Prince George's County was 3.8 percent, which was slightly greater than the state of Maryland unemployment rate of 3.6 percent (**Table 4-36**) (Maryland State Archives, 2020). The two census BGs that contain the MRC, CT 8074.08 BG 1 and CT 8002.08 BG 3, respectively, have roughly double and triple the rate of unemployment than that of the state (U.S. Census Bureau, 2019j).

The median household incomes in Prince George's County and Maryland are comparable, with median incomes of $86,290 and $86,738, respectively (U.S. Census Bureau, 2019d). Median household income varies among the census BGs that include or are adjacent to the MRC, all of which are greater than the state of Maryland and Prince George's County. CT 8002.08 BG 2 has the highest median household income at $126,917 (U.S. Census Bureau, 2019i). A total of 8.6 percent of the population is below the poverty level in Prince George's County, which is lower than that of the 9 percent found in the state of Maryland (U.S. Census Bureau, 2019e). The percentage of the population below the poverty level occurs at lower rates in the census BGs that include or are adjacent to the MRC. CT 8074.08 BG 3 has no individuals estimated to be below the poverty level (U.S. Census Bureau, 2019c).

4.15.3 How Would Implementation of the Master Plan Impact the Local and Regional Economy?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other

Government-owned or leased space in the Washington, DC metropolitan area. Employees currently housed at the MRC would contribute to the regional economy and support local businesses at current levels. As there would be no anticipated increase or decrease in business activity, the No-Action Alternative would result in minor, long-term, adverse impacts to the local or regional economy.

Alternatives A, B, and C (Action Alternatives)

Under the Action Alternatives, construction would increase economic activity in the region. During construction, materials and equipment may be purchased from local providers; additionally, construction personnel would likely patronize local businesses, such as gas stations and restaurants, through the duration of construction activities. Since construction personnel would spend a portion of their income at local businesses, and since construction materials, equipment, and supplies may be procured from local or regional suppliers, the Action Alternatives would provide temporary benefits to the local and regional economy. Construction would occur over a period of 20 years, and cost estimates for the Action Alternatives have not been developed, so these impacts cannot yet be quantified.

Once construction is complete, the MRC would accommodate 1,800 employees and support staff. Employees and support staff would likely patronize local businesses in the vicinity of the MRC. New businesses and services may be established to serve the increased population of employees. Furthermore, additional contractual obligations with vendors, such as maintenance and repair contracts, would be required to serve the expanded MRC operations. The increased business activity required to serve the MRC and the increased employee population would result in long term benefits to the regional economy under the Action Alternatives.

4.15.4 How Would Implementation Of The Master Plan Impact Employment Within The Area?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Vacancies would be filled with new employees. The need for additional employees under the No-Action Alternative would result in minor, long-term, adverse impacts to employment in the region.

Alternatives A, B, and C (Action Alternatives)

Implementation of the Master Plan under the Action Alternatives would result in direct employment opportunities in the construction industry in the region. These jobs would last the duration of construction. Therefore, the Action Alternatives would provide temporary benefits to employment in the region.

Under the Action Alternatives, the MRC would support the anticipated growth of FDA and eventually accommodate 1,800 employees and support staff. While some of these employees may relocate from other FDA facilities, some may be new positions that would result in new employment opportunities in the region. Businesses in the area that would serve the increased population at the MRC or that would fulfill contractual obligations would also likely hire more personnel to handle the additional business. The need for additional employees under the Action Alternatives would result in beneficial impacts to employment in the region.

4.15.5 How Would Implementation Of The Master Plan Affect Taxes And Revenue?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The MRC is a Federal property, and, as such, is not subject to real property taxes. No additional employees would be located at the MRC. The current personnel assigned to the campus would continue to provide tax revenue in the form of sales tax incurred when patronizing local businesses. Therefore, the No-Action Alternative would not result in new impacts to taxes and revenue.

Alternatives A, B, and C (Action Alternatives)

The MRC is a Federal property, and, as such, is not subject to real property taxes. The Master Plan would not require the acquisition of new land and there would be no change in the amount of land exempt from property tax.

During construction of the Action Alternatives, sales tax revenue would be generated from the purchase of materials and equipment necessary for proposed construction activities. Construction personnel would also contribute to a temporary increase in sales tax revenue when patronizing local businesses. The construction workers that have been hired to construct the new facilities at the MRC would also provide revenue to local, state, and Federal Governments through income taxes. These impacts under the Action Alternatives would be beneficial but would be limited to the duration of construction activities.

The Action Alternatives would all result in the eventual increase of the population at the MRC of up to 1,800 employees and support staff. These employees would contribute to sales tax revenue by patronizing local businesses and services. Implementation of the Master Plan would additionally provide tax revenue when acquiring the services of contractors and vendors. Increased business activity in the area as a result of the Action Alternatives would create a beneficial impact on tax revenue within Prince George's County and the state of Maryland.

Some employees may choose to relocate to the area from outside of the NCR to fulfill employment opportunities at the MRC. These new employees would be subject to income tax, generating local and state tax revenue. This increase in income tax revenue would result in a minor benefit to taxes and revenue in the region.

4.15.6 What Measures Would Be Taken To Reduce The Impact On The Local And Regional Economy?

The impacts to the local and regional economies are expected to be beneficial. The increased economic activity that would be stimulated by the proposed action is consistent with Prince George's County's goals and plans for economic development. Therefore, additional measures are not necessary to reduce impacts to the local and regional economy.

4.16 ENVIRONMENTAL JUSTICE

4.16.1 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 4-37**.

Table 4-37. 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 disproportionally 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

4.16.2 Are There Any Low-Income or Minority Populations Near the MRC?

Executive Order (EO) 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* directs Federal agencies to identify and address, as appropriate, disproportionately high, and adverse human health impacts or environmental effects of their programs, policies, and activities on minority and low-income populations. According to the USEPA, "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 must have a disproportionate impact on minority and low-income populations (EPA, 2019a).

A low-income individual is defined as any individual receiving a total family income below the applicable poverty threshold, as derived from the Office of Management and Budget's (OMB) Statistical Policy Directive 14. Information regarding poverty status of individuals is available from the U.S. Census Bureau at the CT level. A low-income population is defined as any CT with a higher percentage of low-income individuals than the county population as a whole. A minority individual is defined as any individual that is nonwhite or identifies as Hispanic or Latino. A minority population is defined as any group of people living in a geographic proximity that is 50 percent minority or greater (CEQ, 1997).

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).

Census BGs within the vicinity of the MRC are shown on **Figure 4-3**. The MRC is located within CT 8074.08 BG 1 and CT 8002.08 BG 3 and is adjacent to two additional census BGs. Minority and low-income population statistics for the census BGs in the vicinity of the MRC; Prince George's County; the state of Maryland; and the U.S. are shown in **Table 4-38**. Age demographics for the census BGs, as well and the county, state, and nation, are provided in **Table 4-39**.

While the percentage of minority populations in the study area is greater than that of the state of Maryland and the U.S., it is comparable to the rate of Prince George's County. One exception is CT 8074.08 BG 1, which has a smaller minority population percentage than the county and is closer to that of the state. The percentage of low-income populations within the study area is lower than that of Prince George's County, Maryland, and the U.S. The percentages of the population over 65 years old in the census BGs that include or are adjacent to the MRC are slightly lower (less than one percent) than the county, state, and nation, except for CTs 8002.08 BG 3, in which the population over 65 years old is greater than the county.

Table 4-38. Minority and Low-Income Populations

Location	Total Population	Minority Population (%)	% Living Below Poverty Level
National	324,697,795	27.5	12.3
State	6,018,848	44.5	9.0
Prince George's County	908,670	83.4	8.6
CT 8002.08, BG 2	4,063	78.7	4.6
CT 8002.08, BG 3	2,092	80.4	1.6
CT 8074.08, BG 1	2,275	51.0	2.9
CT 8074.08, BG 3	1,640	76.3	0.0

Sources: U.S. Census Bureau, 2019a; U.S. Census Bureau, 2019b; and U.S. Census Bureau 2019c

Table 4-39. Age Demographics

Location	Total Population	Population Under 18 Years Old (%)	Population 18 to 64 Years Old (%)	Population 65 Years Old and Over (%)
National	324,697,795	73,429,392 (22.6)	200,484,607 (61.7)	50,783,796 (15.7)
State	6,018,848	1,341,682 (22.3)	3,774,488 (67.7)	902,678 (15.0)
Prince George's County	908,670	202,037 (22.2)	589,811 (64.9)	116,822 (12.9)
CT 8002.08, BG 2	4,063	1,047 (25.8)	2,566 (63.2)	450 (11.0)
CT 8002.08, BG 3	2,092	542 (25.9)	1,250 (59.8)	300 (14.3)
CT 8074.08, BG 1	2,275	578 (25.4)	1,496 (65.8)	201 (8.8)
CT 8074.08, BG 3	1,640	536 (32.7)	986 (60.1)	118 (7.2)

Source: U.S. Census Bureau, 2019k and U.S. Census Bureau, 2019o

The *USEPA'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 MRC is in a higher percentile for several environmental indices compared to Maryland and the U.S. (EPA, 2020). The area within a 1-mile radius of the MRC is in at least the 80th percentile for particulate matter ($PM_{2.5}$), ozone (O_3), diesel particulate matter, air toxics cancer risk, respiratory hazard index, proximity to superfund sites, proximity to risk management plan (RMP) facilities, proximity to hazardous waste, and wastewater discharge (EPA, 2020).

4.16.3 How Would the MRC Master Plan Impact Environmental Justice Populations?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Because there would be no changes to the existing conditions, there would be no human health or environmental impacts that would disproportionately affect the minority and low-income populations or specific age demographics.

Alternatives A, B, and C (Action Alternatives)

The area surrounding the MRC includes CTs with greater percentages of minority populations than that of the state of Maryland and the U.S.; however, low-income and elderly populations in the vicinity of the MRC occur at lower rates than in Prince George's County, Maryland, and the U.S. These Environmental Justice populations are susceptible to environmental impacts as noted in the EJSCREEN review. Air quality, noise, and traffic impacts would be mitigated as discussed in Section 4.29. There would be no impacts from environmental contamination. Public participation was solicited, and input was given equal consideration regardless of age, race, income, or other socioeconomic and demographic factors. Although there are Environmental Justice populations located near the MRC, there would be no human health or environmental impacts that would disproportionately affect these populations.

4.16.4 What Measures Would be Taken to Protect Environmental Justice Communities

The best practices to address air quality, noise, and traffic impacts during construction-related activities and facilities operations 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 USEPA 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
- During the construction period, fugitive dust and particulate emissions would be mitigated via water and other dust suppressants as necessary.
- Employees would be encouraged to use public transportation (see also the TMP located in **Appendix F** for additional ways GSA/FDA is encouraging use of public transit).
- Carpool, vanpool, bicycle-to-work; the use of alternative "clean" fuels and non-polluting sources of energy would be used whenever possible; minimizing power generation requirements; and using green building materials, construction methods, and building designs would be used to the maximum extent practicable.
- Measures taken to temporarily reduce the generation of emissions that contribute to O_3 formation would be taken.
- Natural gas heater usage will likely be limited during the summer months and when the weather is warmer.

4.17 AIR QUALITY

4.17.1 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 National Ambient Air Quality Standards (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, and Action Alternatives A, B, and C. The analysis is summarized from the Air Quality Technical Report in **Appendix D**.

The impact thresholds for air quality are provided in **Table 4-40**.

Table 4-40. 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

4.17.2 Are There Any Air Quality Issues in the DC-Metropolitan Area?

Air quality is regulated at the Federal level through the CAA. The USEPA adopted the CAA in 1970 and its amendments in 1977 and 1990. Pursuant to the CAA, USEPA 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 4-41**): O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) and particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$), sulfur dioxide (SO_2), 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, 2019b).

The CAA requires USEPA 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 Federally 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 4-41. National Ambient Air Quality Standards

Pollutant	Averaging Time	Primary Standards	Secondary Standards	Standard Form
O_3	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 98th 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 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
SO_2	3 hours 1 hour	— 0.075 ppm[b]	0.5 ppm —	Not to be exceeded more than once per year 99th 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, 2019b

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 SO_2 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 SO_2 standards or does not meet the requirements of a State Implementation Plan (SIP) call under the previous SO_2 standards (40 CFR 50.4(3)). A SIP call is an USEPA 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/m^3 as a calendar quarter average) also remain in effect.

µg/m^3 = micrograms per cubic meter

ppm = parts per million (by volume)

ppb = parts per billion (by volume)

The Washington DC-MD-VA Region, which includes the MRC, is designated as a marginal nonattainment area for O_3 (area has a design value of 0.071 ppm up to, but not including 0.081 ppm) under the 2015 8-hour standard (MWCOG, 2020). The Washington DC-MD-VA region is designated as in attainment of the NAAQS for all other criteria pollutants. In 2019, the region was redesignated by the USEPA regarding the 2008 8-hr ozone standard from marginal nonattainment to attainment maintenance (EPA, 2021). While the area still has ozone issues, precursor emissions such as volatile organic compounds, nitrogen oxides and particulate matter are reducing, therefore ozone concentrations are slowly declining. The District's Ambient Air Quality Trends Reports illustrates these trends (DOEE, 2020).

4.17.3 Will This Master Plan Impact Air Quality In The Area?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Air quality analyses for both mobile and stationary sources were conducted. Existing traffic conditions in the area have resulted in moderate, long-term, adverse impacts to air quality. The No-Action Alternative would not add to the impacts and would conform to the *Washington Metropolitan Region SIP*.

Alternatives A, B, and C (Action Alternatives)

The Master Plan would affect air quality in the area on a very small scale. Fugitive dust would be produced during construction, but it would minimal and not permanent. The fugitive dust that would be produced is not expected to travel far from the MRC site. Fugitive emissions would be mitigated using water sprays or other suppressants as needed. Because fugitive emissions would not be discernible, the Action Alternatives would result in a negligible, short-term, adverse impact.

Additionally, natural gas would be used to operate comfort heating within the new buildings. The combustion of natural gas does emit criteria pollutants, some toxic pollutants and greenhouse gases. However, if the assumed comfort heaters were used continually throughout the year, the total emissions would be less than 5.2 tons of any criteria pollutant (less than 1.0 ton per year for most) and only 5,516 metric tons of CO_2e[7]. In practicality, the heaters would not be used continually; thus the actual emissions would be much lower. While there would be emissions from the Action Alternatives, the impact would not be discernable; therefore, a negligible, long-term, adverse impact would occur.

The Air Quality Technical Report in **Appendix D** provides additional technical information on the air quality analyses.

4.17.4 How Would Stationary Sources Impact Air Quality?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The replacement of existing AHUs would produce lower levels of air emissions. Therefore, there would be beneficial impacts to air quality.

Alternatives A, B, and C (Action Alternatives)

The only stationary sources associated with the proposed project are natural gas fired heaters to be installed within the new buildings. The implementation of the Master Plan would produce a lower level of emissions

[7] CO_2e is the carbon dioxide equivalent or the number of metric tons of carbon dioxide emissions with the same global warming potential as one metric ton of another greenhouse gas.

and have minor, long-term, adverse impacts to air quality. All other stationary sources are already operational at MRC and are permitted appropriately.

4.17.5 How Would Mobile Sources Impact Air Quality?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Existing traffic conditions in the area have resulted in moderate, long-term, adverse impacts to air quality. Air emissions from traffic in and surrounding the MRC would generally remain at current levels. Therefore, the No-Action Alternative would not add to these impacts.

Alternatives A, B, and C (Action Alternatives)

In accordance with *USEPA Guidance on CO Hot Spot Analysis* (EPA, 1992), the potential for mobile source emissions to violate the NAAQS was evaluated by analyzing mobile CO emissions at a single intersection considered to be the worst-case scenario for potential emissions on nearby air quality sensitive receptors. The worst-case intersection was determined to be Muirkirk Drive and Laurel Bowie Road. Of the 13 intersections that were the focus of the *2021 Traffic Impact Study MRC Master Plan*, this intersection was predicted to have the highest traffic volumes coupled with low levels-of-service (LOS). This intersection is anticipated to emit the highest CO concentrations. Intersection geometry, modeled future year traffic counts, and signalization characteristics of this intersection were input into USEPA's CAL3QHC pollutant dispersion model to estimate the worst-case, localized CO concentrations near locations likely to host air quality sensitive receptors, such as crosswalks and sidewalks. The mobile source analyses indicated that future traffic conditions at this intersection would not result in any exceedance of the 1-hour or 8-hour NAAQS for CO under any of the Action Alternatives.

The proposed action qualifies as a project that facilitates new development and may generate Mobile Air Source Toxic (MSAT) emissions from activities including new trips, truck deliveries, and parked idling vehicles (FHWA, 2016). However, these are activities that are attracted from elsewhere in the region. Thus, on a regional scale, there would be no net change in emissions. USEPA regulations for vehicle engines and fuels would cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent. This would both reduce the background level of MSAT as well as the possibility of even minor, long-term, adverse impacts from MSAT emissions as a result of implementation of this Master Plan.

4.17.6 What Measures Would Be Taken To Reduce Impacts To Air Quality?

During the construction period, fugitive dust and particulate emissions would be mitigated via water and other dust suppressants as necessary. Under all Action Alternatives, any long-term impacts within the region from the mobile sources would be offset by the advancement in automobile technology and Federal emission regulations and controls. Employees would be encouraged to use public transportation (see also the Transportation Management Plan located in **Appendix F** for additional ways GSA/FDA are encouraging use of public transit). Carpool, vanpool, bicycle-to-work; the use of alternative "clean" fuels and non-polluting sources of energy would be used whenever possible; minimizing power generation requirements;

and using green building materials, construction methods, and building designs would be used to the maximum extent practicable. In addition, in response to Air Quality Action Days, measures to temporarily reduce the generation of emissions that contribute to O_3 formation would be taken. Additionally, the natural gas heater usage will likely be limited during the summer months and when the weather is warmer.

4.18 GREENHOUSE GASES & CLIMATE CHANGE

4.18.1 Assessment Methodology

Greenhouse gases (GHG) were evaluated from both a numerical and regulatory standpoint. The potential sources of GHGs from both the implementation of the Master Plan and natural or anthropogenic sources were analyzed. The explicit project emission estimates were derived from EPA emissions factors for sources associated with the project. Additional information can be found in **Appendix D**.

The impact thresholds for greenhouse gas and climate change are provided in **Table 4-42**.

Table 4-42. Impact Intensity Thresholds for Greenhouse Gas and Climate Change

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts GHG emissions	Slight, but detectable impacts from GHG emissions which would slightly increase climate change	Effect that is potentially major but with best practices and mitigation measures is reduced below major	Highly noticeable impacts from GHG emissions which would significantly increase climate change
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

4.18.2 What is the Current State of Greenhouse Gas Emissions in Maryland?

GHG emissions released from human activities are widely recognized as a contributing factor to climate change. While the economic sectors primarily responsible for the most manmade GHG emissions in the U.S. in 2017 were transportation (29 percent), electricity production (28 percent), and industry (22 percent), according to the USEPA, new commercial and residential developments also contribute to GHG emissions (EPA, 2019c).

USEPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. USEPA (2007). The U.S. 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, USEPA 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 (carbon dioxide, methane, nitrous oxide,

hydrochlorofluorocarbons, chlorofluorocarbons, sulfur hexafluoride) could threaten the public health and welfare of current and future generations. Furthermore, USEPA 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*, which was withdrawn on April 5, 2017, for further consideration pursuant to EO 13783, *Promoting Energy Independence and Economic Growth*.

The State of Maryland passed the *Greenhouse Gas Emission Reduction Act* in 2009. The regulation, administered by the MDE, required the state to develop and implement a plan to reduce GHG emissions by 2020 to a point that is 25 percent below 2006 emissions. The plan, released in 2012 and updated in 2015, encouraged reductions in GHG emissions through a variety of incentive programs targeting the public and private sector. These programs focused on increasing energy efficiency using existing technologies, identifying ways to transition to new energy sources, and stimulating further technological development to reduce GHG emissions. In 2020, Governor Hogan reauthorized the *Greenhouse Gas Emissions Reduction Act*, requiring Maryland to reduce GHG emissions by 40 percent from the 2006 baseline by 2030 and to achieve net-zero statewide greenhouse gas emissions by 2045.

MDE published an inventory of GHG emissions in the State of Maryland for the year 2017, which stated that Maryland activities accounted for approximately 79.12 million metric tons (MMT) of gross carbon dioxide equivalent (CO_2e) emissions, with net emissions of approximately 67.40 $MMTCO_2e$ once carbon sinks such as forest lands and agricultural soils were taken into account (MDE, 2017). This resulted in 26.21 percent reduction in the total gross GHG emissions in 2006. The three principal sources of GHG emissions in Maryland are electricity consumption; transportation; and residential, commercial, and industrial fossil fuel use, which account for 31 percent, 40 percent, and 18 percent of Maryland's 2017 gross emissions, respectively (MDE, 2017).

4.18.3 How Do GSA and FDA Currently Address Greenhouse Gas Emissions?

GHG reduction is one of GSA's ten sustainability goals. For GSA-owned buildings, GSA requires high-performance building design through compliance with the *Guiding Principles for Sustainable Federal Buildings* for all new construction through its *Facilities Standards for the Public Buildings Service* (P-100). GSA's sustainability plan focuses on improving building energy efficiency and installing advanced and renewable energy technologies. One of its major energy strategies requires all new construction to use 30 percent less energy than what the American National Standards Institute requires and to be LEED® Gold certified. GSA has also worked to reduce GHG emissions resulting from employee business travel, commuting, electrical transmission and distribution, and waste-related emissions, including from solid waste and wastewater management. GSA exceeded its goal of a 40-percent reduction of GHG emissions by the end of 2013 and seeks to reduce GHG emissions by 73 percent from 2008 levels by 2025 (GSA, 2019).

FDA is a component under the U.S. Department of Health and Human Services (HHS). HHS incorporates sustainability into its daily operations at campuses and facilities. From FY 2008 to FY 2019, HHS saw a 29.4 percent reduction in GHG emissions. In FY 2019 FDA had a decrease in energy use. Facility energy efficiency is accomplished through energy reduction projects, renovation and upgrade projects, and new construction.

Onsite energy technologies are included in new design projects to the extent practicable and improving water efficiency through infrastructure upgrades, lead detection and prevention, metering, and implementing no-cost or low-cost water conservation measures. In addition, all new construction uses the *2016 Guiding Principles and Leadership in Energy and Environmental Design* standards. Lastly, HHS maximizes its efforts in waste management and diversion by encouraging staff and contractors to reduce waster generation, increase recycling, and reinforce the use, handling and disposal of hazardous materials (HHS, 2020).

4.18.4 What Types of Energy Efficiency Measures Are Currently Used at MRC?

In FY 2020, FDA began upgrading the MRC domestic water pipe insulation, heating, ventilation, and air conditioning (HVAC) pumps, and air handling units. This has created an annual energy savings of 993,787 kilowatt-hours (kWh), 16,566 therms, and $95,567. In addition, at the MOD 1 building, two AHUs are being replaced with higher efficiency models, which equates to an estimated energy and water savings of 86,909 KWh, 69,600 gallons of water and $21,573 annually. Other energy conservation measures planned for the MRC include other AHU replacements; controls, cooling tower, boiler, pump systems, and valve improvements; lighting and controls retrofits; exterior window and joints caulking and repairs; and a solar PV system installation. Additional MRC energy savings projects under design in FY 2020 include building vestibule upgrades, HVAC upgrades, LED lighting retrofit, and ventilation improvements (HHS, 2020).

4.18.5 Would Implementation of the Master Plan Contribute to GHG Emissions?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The majority of the GHG emissions associated with the MRC operation are from the heating and energy demand as well as emissions from vehicle travel to and from the facility. While the MRC does emit GHG emissions, the replacement of generators at MOD 1 would provide energy savings measures would help reduce FDA's overall carbon footprint. Because the MRC already provides energy savings measures and would replace older generators, the No-Action Alternative would not increase GHGs.

Alternatives A, B, and C (Action Alternatives)

Implementation of the Master Plan Action Alternatives would contribute a small level of GHG emissions, which could contribute to climate change. However, climate change is a long-term event. Construction would create some temporary GHG emissions, but these negligible, adverse impacts would be localized and temporary. Long-term, the use of natural gas heating for building comfort and operating of small boilers/generators has the potential to contribute to climate change as well, but the impact to the surrounding air quality over the long-term would only be slightly discernable, especially when compared to surrounding GHG sources within 10-miles of the MRC. The estimated potential for the project is less than 6,000 MMT of CO_2e annually, which is significantly less than the Prince George's County Landfill on Brown Station Road (58,430 metric tons CO_2e), FDA FRC at White Oak (75,117 metric tons CO_2e), and the University of Maryland (99,021 metric tons CO_2e) (EPA, 2021). Overall a minor, long-term, adverse impact to climate change would occur.

4.18.6 What Measures Would be taken to Reduce the Contribution to Climate Change?

GSA and FDA would comply with BMPs outlined in Maryland regulations during construction, ensuring that there would be minimal temporary construction-related GHG impacts. FDA would also reduce their carbon footprint by limiting the total number of new parking spaces to one parking space for every two employees and by promoting use of mass transit and carpooling. According to the USEPA Carbon Footprint Calculator, the average annual CO_2e emission per vehicle is 10,484 lb (EPA, 2021b). If approximately 820 vehicles (difference between 1800 new employees and 980 new parking spaces) did not commute that would eliminate on average 4.4557 tons CO_2e per year. FDA would also continue to minimize power generation requirements; and use green building materials, construction methods, and building designs to the maximum extent practicable. FDA would continue to implement GSA's sustainability goals, including GHG reduction through improving building energy efficiency, and installing advanced and renewable energy technologies. By 2025, GSA has a goal to reduce GHG emissions by 73 percent from 2008 levels.

4.19 NOISE

4.19.1 Assessment Methodology

Noise is defined by USEPA as "any unwanted or disturbing sound," and is regulated under the Noise Control Act of 1972. The degree of annoyance caused by noise depends primarily upon the amplitude of the sound, its frequency, and its duration. Sound amplitude is quantified in terms of levels having units of decibels (dB). Sound levels that are weighted to account for the non-uniform frequency sensitivity of the human ear are known as A-weighted sound levels and are given in units of A-weighted decibels (dBA).

To evaluate whether the noise would be altered as a result of the changes associated with the Master Plan, a qualitative noise analysis was conducted. This includes a comparison of noise-sensitive land uses, roadway configurations, and vehicle volumes/speeds/types. Additionally, changes in operational and construction noise were assessed. The extent to which individuals are affected by noise is controlled by several factors, including:

- duration and frequency of sound,
- distance between the sound source and the receptor,
- intervening natural or man-made barriers or structures, and
- ambient environment.

TYPICAL NOISE SOURCES AND THEIR SOUND LEVELS

Source	Sound Level (dB(A))
Near large jet at takeoff	140
Air-raid siren	130
Threshold of pain	120
Thunder of sonic boom	110
Garbage or trailer truck at roadside	100
Power lawnmower at 5 feet	90
Alarm clock or vacuum cleaner	80
Freeway traffic at 50 feet	70
Conversational speech	60
Average residence	50
Bedroom*	40
Soft whisper at 5 feet	30
Rustle of leaves	20
Breathing	10
Threshold of hearing	0

*includes HVAC system, conversation, walking, doors opening and closing

Source: Center for Hearing and Communication, 2021

For the purpose of this noise analysis, the use of the properties adjacent to construction areas and transportation improvements were classified according to the human activities that occur, or are expected to occur, within the property boundaries.

The impact thresholds for noise are provided in **Table 4-43**.

Table 4-43. 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 Prince George's County 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)	Extending beyond the project site	Extending beyond the project site
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

4.19.2 What Are the Existing Noise Sources In and Near the MRC?

In the vicinity of the MRC, land use/land cover in the study area is primarily low- and medium-density residential, interspersed with institutional land uses, parks, and forested area. There is also a large industrial area to the west of the study area. Noise-sensitive land uses surrounding the MRC include residential and recreational areas.

Common sources of community noise in the area include airplanes, roadway traffic, sirens from emergency vehicles, and other human and animal activities. Located in a primarily residential area, the loudest and most pervasive source of noise is truck and automobile traffic volumes and speeds on freeways and arterial roads. The roadways surrounding the MRC include:

- MD 295/Baltimore-Washington Parkway
- US Route 1
- MD 197/Laurel Bowie Road
- Muirkirk Road
- Odell Road
- Ellington Drive

- Cedarbrook Lane
- Springfield Road

Noise-Sensitive Resources. Existing noise-sensitive resources within the areas that would be affected by the Master Plan Alternatives (**Figure 4-44**) include:

- Snowden Woods at Blue Ponds Community to the north of Muirkirk Road
- Montpelier Community to the north of Muirkirk Road
- Snowden Oaks Community to the north of Muirkirk Road
- Woodbridge Crossing Community to the east of Odell Road
- Bedford Community to the east of Odell Road
- Montpelier Hills Community to the east of Odell Road
- Community on Westlock Place
- Residences on Ellington Drive
- Residences on Odell Road
- Residences on Gross Lane
- Residences on Old Muirkirk Road
- Residences on Orwood Lane
- Bedford Neighborhood Park to the east of Odell Road
- Blue Ponds Park to the east of Old Muirkirk Road
- Muirkirk West Neighborhood Park to the south of Old Muirkirk Road
- Snowden Oaks Community Park/Oxwell Park to the north of Muirkirk Road
- Montpelier Hills Recreational Association to the west of MD 295/Baltimore-Washington Parkway
- Playground to the east of Muirkirk Road at the intersection of Muirkirk Road and Sea Pearl Court
- Montpelier Community Association Recreation Center to the east of Cedarbrook Lane
- Montpelier Elementary School to the north of Muirkirk Road
- Capitol Technology University to the east of Odell Road
- Queens Chapel United Methodist Church to the north of Old Muirkirk Road

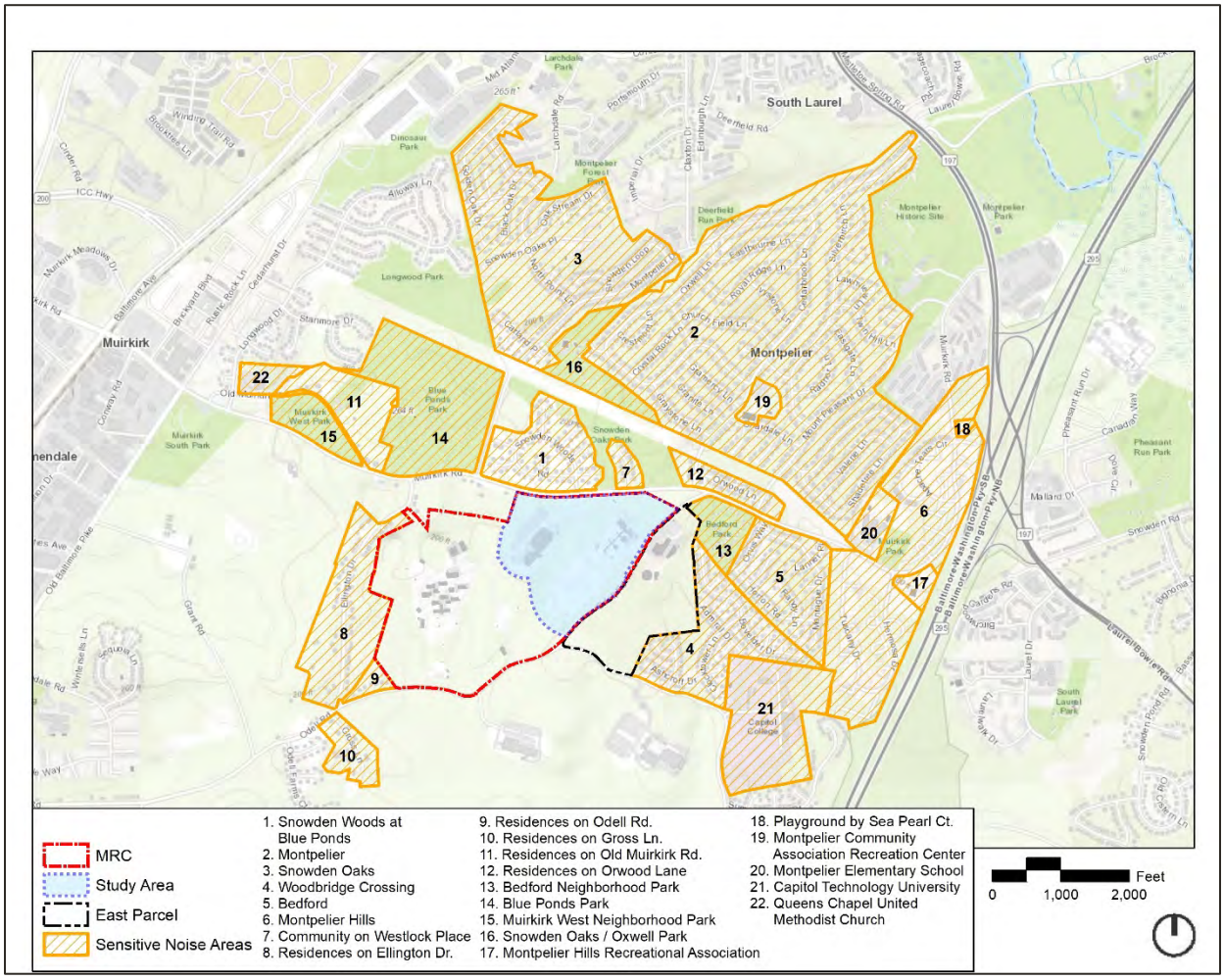


Figure 4-44. Sensitive Noise Resources in the Vicinity of the MRC

4.19.3 How Would the Project Affect Noise Levels Near the MRC?

Human ability to perceive change in noise levels varies widely from person to person, as do responses to perceived changes. Generally, a three dB(A) change in noise level would be barely perceptible to most listeners, whereas a ten dB(A) change is typically perceived as a doubling (or halving) of noise levels and is considered a substantial change. These thresholds, summarized in **Table 4-44,** permit direct estimation of an individual's probable perception of changes in noise levels. The Noise Abatement Criteria (NAC) for residential land uses is 67 dBA.

Table 4-44. Perceptions of Changes in Noise Levels

Change in dB(A)	Perception
0	Reference
3	Barely perceptible change
5	Readily perceptible change
10	Twice or half as loud
20	Four times or ¼ as loud
40	Eight times or ⅛ as loud

Source: FHWA, 2011

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The MRC would remain unchanged from its current conditions and the property would not induce additional traffic volumes on study area roadways. Predicted general growth in the community would increase traffic, which could result in an associated increase in noise levels. Because there would no discernable increases in noise levels at the MRC, the No-Action Alternative would have negligible, long-term, adverse impacts.

Alternatives A, B, and C (Action Alternatives)

Construction noise is composed of the noise generated by demolition as well as the construction of the proposed buildings. The noise associated with the operation of the buildings is also a component.

The construction noise impacts as a result of the Master Plan would be adverse during construction and would primarily be due to heavy equipment use. As with any major construction project, areas around the construction site would be likely to experience varied periods and degrees of noise. With multiple pieces of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of the MRC. Individual pieces of construction equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet. **Table 4-45** presents typical noise levels that the FHWA uses in the Roadway Construction Noise Model for outdoor construction noise (FHWA, 2011). Construction activities would be confined primarily to daytime hours and would be subject to Prince George's County noise regulations. Noise at nearby sensitive receptors (**Figure 4-44**) might be clearly audible but would only be temporary. 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. Overall, construction activities would increase noise levels resulting in a minor, short-term, adverse impact.

Table 4-45. Noise Levels Associated with Outdoor Construction

Construction Phase	Noise Level at 50 feet from Source dB(A)
Concrete Saw	90
Drum Mixer	80
Pneumatic Tools	85
Mounted Impact Hammer	90
Slurry Plant	78

Source: FHWA, 2011

Implementation of the Master Plan would alter traffic volumes and patterns. The potential for these changes to exceed FHWA-established noise abatement criteria and MDOT SHA Noise Abatement Policy criteria was analyzed. Traffic volume data was compared for all roadway segments to determine if noise-sensitive (primarily residential) areas would experience the growth in traffic volumes significant enough to result in traffic noise increases. A doubling of existing traffic volumes, of the same vehicle mix composition, would be necessary to result in a three-decibel increase in noise levels, which is generally the smallest increment of noise increase or decrease that can be perceived by the human ear (FHWA, 2011). The traffic increases anticipated with development under the MRC Master Plan would be much smaller than a doubling

(or 200 percent increase) of traffic volumes at full build out (FHWA, 2011). Traffic as a result of implementation of the Master Plan is anticipated to cause barely perceptible or imperceptible increases in noise; therefore, there would be a negligible, long-term, adverse impact from noise as a result of an increase in traffic.

Operation of the new facilities at the MRC would result in long-term increases in noise levels that would be imperceptible, or barely perceptible, to human ears, resulting in a negligible adverse impact.

4.19.4 What Efforts Would Be Made to Reduce Noise to the Community?

Construction would be limited to the MRC and therefore, potential noise associated with the project would be limited to noise-sensitive areas adjacent to the campus. The BMPs to address noise impacts during construction-related activities and facilities operations 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 USEPA 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.

4.20 TRAFFIC AND TRANSPORTATION

4.20.1 Assessment Methodology

A capacity analysis was performed to evaluate impacts to the local roadway network. **Table 4-46** lists the study area intersections that were evaluated. At the time of this analysis, the area was experiencing the effects of the COVID-19 pandemic, which significantly impacted typical traffic conditions. Due to this, a traditional traffic count data program was not possible. The project team reviewed historic traffic count data on the MDOT SHA Internet Traffic Monitoring System (I-TMS), as well as from other previous traffic studies. However, data was not available for all study area intersections, and some of the data exceeded ten years. Therefore, in coordination with Prince George's County, a data collection plan was developed. The plan consisted of collecting turning movement count data at all study intersections and then comparing a few of the intersection counts with data obtained from I-TMS. The comparison of volumes was then used to develop factors in which to increase the 2021 field data to reflect a scenario absent of COVID-19 (**Table 4-47**).

Table 4-46. Study Area Intersections

Study Area Intersection	Signalization
Konterra Drive & MD 200 On-Ramp	Signalized
Konterra Drive & MD 200 Off-Ramp	Signalized
Virginia Manor Road/ Konterra Drive & Muirkirk Road	Signalized
Virginia Manor Road/ Ritz Way (MD 212) & Virginia Manor Road	Unsignalized
Muirkirk Meadows Drive & Muirkirk Road	Unsignalized
Brick Yard Boulevard/ Driveway & Muirkirk Road	Signalized
Old Baltimore Pike/Cedarhurst Drive & Muirkirk Road	Signalized
Pasture Road/ Snowden Woods Road & Muirkirk Road	Unsignalized
Odell Road/Cedarbrook Lane & Muirkirk Road	Signalized
Laurel Bowie Road (MD 197) & Muirkirk Road/Crystal Plaza Driveway	Signalized
Odell Road & Springfield Road	Unsignalized
Odell Road & Ellington Drive	Unsignalized
Powder Mill Road & Springfield Road	Unsignalized

Table 4-47. Intersection COVID-19 Factor

Study Area Intersections	AM Factor	PM Factor
Konterra Drive & MD 200 On-Ramp	2.2	1.4
Konterra Drive & MD 200 Off-Ramp	2.2	1.4
Virginia Manor Road/ Konterra Drive & Muirkirk Road	2.2	1.4
Virginia Manor Road/ Ritz Way (MD 212) & Virginia Manor Road	2.2	1.4
Muirkirk Meadows Drive & Muirkirk Road	2.2	1.4
Brick Yard Boulevard/Driveway & Muirkirk Road	2.2	1.4
Old Baltimore Pike/Cedarhurst Drive & Muirkirk Road	2.2	1.4
Pasture Road/ Snowden Woods Road & Muirkirk Road	2.5	1.8
Odell Road/ Cedarbrook Lane & Muirkirk Road	2.5	1.8
Laurel Bowie Road (MD 197) & Muirkirk Road/Crystal Plaza Driveway	1.8	1.4
Odell Road & Springfield Road	2.5	1.8
Odell Road & Ellington Drive	2.5	1.8
Powder Mill Road & Springfield Road	2.5	1.8

Furthermore, the COVID-19 pandemic also affected the ability for the project team to collect other existing conditions data, such as travel time runs and queue length measurements. However, based on anecdotal information obtained for the study area, the signalized intersection of Muirkirk Road and MD 197 was the only intersection that regularly experienced high delays in the existing condition, and delays exist primarily on Muirkirk Road, as well as the northbound MD 197 left-turn lane to Muirkirk Road. In addition, the unsignalized intersections of Muirkirk Road and Muirkirk Meadows Drive, and Virginia Manor Road (MD 212/206) and Ritz Way (MD 212), were also noted to experience delay during the peak periods on the stop-controlled approaches. Therefore, the project team ensured that the capacity analysis results reflected these conditions.

Synchro 10 traffic analysis software was used to perform the capacity analyses for the signalized and unsignalized intersections in the study area. This software package provides average control delay, volume-to capacity ratio (v/c) queues, and LOS for each lane group and for the overall intersection.

The v/c ratio relates the demand at a particular intersection (traffic volume, v) to the available capacity (c). The available capacity for each movement varies depending on number of lanes, lane width, perception/reaction time, green time, and cycle length, among others. A v/c ratio of 1.0 indicates that the demand for a particular movement is equal to the capacity. A movement with a v/c ratio at or over 1.0 is considered undesirable because the movement volume exceeds the capacity, which results in queuing, indicating unmet demand along that approach.

LOS is an evaluation of the quality of operation of an intersection and is a measure of the average delay a driver experiences while traveling through the intersection. LOS is dependent on a range of defined operating conditions such as traffic c demand, lane geometry, and traffic signal timing and phasing.

LOS can range from A to F and is based on the average control delay per vehicle in seconds. For a signalized intersection, LOS A indicates operations with an average control delay less than 10 seconds per vehicle, while LOS F describes operations with an average control delay in excess of 80 seconds per vehicle. For an unsignalized intersection, LOS A indicates operations with an average control delay less than 10 seconds per vehicle, while LOS F indicates operations with an average control delay in excess of 50 seconds per vehicle. The delay criteria for signalized and unsignalized intersections are summarized in **Table 4-48**.

Table 4-48. LOS Thresholds

Level of Service	Average Control Delay (seconds per vehicle)	
	Signalized	Unsignalized
A	Less than or equal to 10.0	Less than or equal to 10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	Greater than 80.0 or v/c greater than 1.0	Greater than 50.0 or v/c greater than 1.0

Source: Highway Capacity Manual, 2016

The impact thresholds for traffic and transportation are provided in **Table 4-49**. The Traffic Technical Report can be found in **Appendix E**.

Table 4-49. Impact Intensity Thresholds for Traffic and 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

4.20.2 What Makes Up the Local Roadway Network?

The transportation study area for the MRC Transportation Impact Study (TIS) is primarily in the City of Laurel in Prince George's County, Maryland. The transportation study area limits are defined as primarily bounded by Muirkirk Road to the north, Powder Mill Road to the south, Laurel Bowie Road (MD 197) to the east, and Virginia Manor Road (MD 206)/Konterra Drive to the west.

Characteristics of the major corridors within the study area were obtained from the Maryland Annual Average Daily Traffic (AADT) (SHA Statewide AADT Lines) map through the Maryland GIS Data Catalog, which denotes functional classification, 2018 AADT, 2018 Annual Average Weekday Traffic (AAWDT), 2018 Truck AADT, and number of lanes. This information is summarized in **Table 4-50**.

Table 4-50. Study Area Major Corridor Characteristics

Roadway	Functional Class	2018 AADT (1,000 vehicles per day, vpd)	2018 AAWDT (1,000 vpd)	2018 Truck AADT (vpd)	Number of Lanes
Muirkirk Road (east of Old Baltimore Pike)	Minor Arterial	10.7	11.5	297	Varies (2-4)
Muirkirk Road (west of Old Baltimore Pike)	Minor Arterial	23.1	24.7	905	Varies (2-4)
Virginia Manor Road	Major Collector	10.4	11.0	N/A	Varies (4-6)

Roadway	Functional Class	2018 AADT (1,000 vehicles per day, vpd)	2018 AAWDT (1,000 vpd)	2018 Truck AADT (vpd)	Number of Lanes
MD 212 (Ritz Way)	Minor Arterial	17.1	18.3	531	6
MD 197	Principal Arterial Other	50.1	53.6	N/A	6
Konterra Drive	Major Collector	13.7	14.5	N/A	4
WB MD 200 On-Ramp	Principal Arterial Other Freeways	2.0	2.1	N/A	2
EB MD 200 Off-Ramp	Principal Arterial Other Freeways	2.8	3.0	N/A	2
Old Baltimore Pike	Minor Arterial	16.0	17.1	1,720	2
Powder Mill Road	Minor Arterial	12.0	12.8	N/A	2

4.20.3 How Would the Local Roadway Network Be Affected by Implementation of the Master Plan?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. Based on this, no new impacts would occur over existing conditions. Existing traffic in the vicinity of the MRC results in minor, long-term, adverse impacts to the local roadway network.

Alternatives A, B, and C (Action Alternatives)

It is anticipated that the Master Plan would be implemented in phases. Phase 1 would occur between 2025 and 2026 and result in a total on-campus population of 1,000. Phase 2 would be completed by 2040 and would result in a total on-campus population of 1,800. The Action Alternatives maintain the same assumed phasing, number of employees and support staff, and number and location of access points to the local roadway network. Therefore, the TIS applies to all the Master Plan Action Alternatives.

Trip Generation

The Institute of Transportations Engineers (ITE) *Trip Generation Manual (*10th Edition*)* Land Use Code 710 (General Office Building) was utilized to estimate the number of AM peak hour, PM peak hour, and total daily trips that would be generated by the additional 1,500 MRC employees and support staff (**Table 4-51**). These daily trips include both auto trips and non-auto trips.

Information obtained from a commuter survey conducted in November 2020 found that 98 percent of employees and support staff currently drive to the MRC. However, NCPC parking guidance requires a parking ratio of one parking space per two employees, which would require that 50 percent of employees arrive via modes other than driving alone. Furthermore, NCPC requires the development of a TMP to provide transportation demand management (TDM) strategies, an implementation plan, and performance

monitoring guidance to help reduce single-occupancy-vehicle (SOV) commute trips. A TMP has been developed in concert with this TIS as part of the master planning effort (**Appendix F**).

The TMP recognizes the pastoral location of the MRC and the limited high-capacity transit services to the site. In addition, the results of the commuter survey indicate that most employees that would relocate to the MRC live to the north and west of the MRC, making transit a challenging option. Furthermore, the relatively low site population would not likely support larger transit-related investments. Therefore, the TMP establishes an interim goal of 25 percent non-SOV mode share for the first phase of growth (2026) and a 50 percent non-SOV mode share goal by 2040 to comply with the NCPC parking ratio requirement. Therefore, to estimate the anticipated vehicular trip generation from the proposed growth, a 25 percent non-auto trip credit was applied to the base trip generation rates in 2026, and a 50 percent non-auto trip credit was applied to the base trip generation rates in 2040.

Table 4-51. Trip Generation Estimate

	Number of Employees	AM Peak Hour			PM Peak Hour			Total Daily
		In	Out	Total	In	Out	Total	
Existing (2021)	300	90	16	106	5	100	105	1,180
2026	1,000	315	55	370	20	380	400	3,091
With 25% Non-SOV Mode Share		236	42	278	15	285	300	2,319
2040	1,800	566	100	666	36	684	720	4,946
With 50% Non-SOV Mode Share		283	50	333	18	342	360	2,473

Site Trip Distribution

A trip distribution analysis was conducted to estimate how the new vehicle trips would travel to and from the site. Home ZIP codes for off-campus employees were obtained from a 2017 survey conducted for FDA FRC. Utilizing typical weekday traffic conditions from Google Maps, a preferred route from off-campus was established for each given zip code. The following network entrance/exit points were established:

- Virginia Manor Road
- MD 200
- MD 212
- Laurel Bowie Road (MD 197)
- Muirkirk Meadows Drive
- Old Baltimore Pike
- Powder Mill Road

The designated routes were grouped by direction of arrival and departure to the study area network for the MRC employees. Utilizing the preferred routes of travel, percentages for each potential arrival/departure route were created for off-campus employees moving to the MRC. In general, most trips were oriented to/from I-95 via MD 200, MD 212, and Laurel Bowie Road (MD 197).

Phase 1 (2025-26) Action Alternative Capacity Analysis Results

The Phase 1 Action Alternative includes the No-Action Alternative added to the Phase 1 Analysis. The results of the capacity analysis indicate that the proposed growth at the MRC would have a moderate, long-term, adverse impact on the study area roadway network when compared to the No-Action Alternative. Overall intersection delay would increase by less than 10 seconds per vehicle at all intersections except for the intersections of:

- Konterra Drive and MD 200 Off-Ramp
- Virginia Manor Road/Konterra Drive and Muirkirk Road
- Virginia Manor Road and Ritz Way
- Old Baltimore Pike/Cedarhurst Road and Muirkirk Road
- Muirkirk Road and Snowden Woods Road/Site Driveway (Pasture Road)

Table 4-52 below shows the lane groups at study intersections that would operate at an overall LOS of E or F (failing condition), as well as overall intersection LOS. However, it should be noted that many of the intersections that are impacted outside of the immediate area of the site already experience high delays under the No-Action Alternative. When traffic volume is added to already oversaturated intersection movements, Synchro-reported delay can increase exponentially. Therefore, it is likely that the existing traffic conditions are addressed through other projects, the increase in delay attributed to MRC-generated traffic would be lower.

Table 4-52. Phase 1 Action Alternative – Lane Groups Operating at Overall LOS E or F

Intersection	Lane Group	2026 Action Condition		2026 Action Condition	
		AM	PM	AM	PM
Konterra Drive & MD 200 On-Ramp	Intersection	A (7.8)	A (5.5)	A (8.3)	A (8.0)
Konterra Drive & MD 200 Off Ramp	EB-R	-	-	F (78.8)	-
	Intersection	C (21.3)	B (9.7)	C (30.6)	C (21.5)
Virginia Manor Road/Konterra Drive & Muirkirk Road	WB-R	-	F (44.1)	-	F (112.2)
	SB-L	F (284.8)	F (235.8)	F (378.0)	F (243.5)
	Intersection	F (104.3)	F (85.2)	F (141.7)	F (109.4)
Virginia Manor Road/Ritz Way (MD 212) & Virginia Manor Road	SB-L	F (-)	F (392.8)	F (-)	F (-)
	Intersection	F (60.4)	E (36.7)	F (76.8)	E (36.7)
Muirkirk Meadows Drive & Muirkirk Road	NB-LTR	F (-)	F (-)	F (-)	F (-)
	SB-LTR	F (-)	F (341.1)	F (-)	F (743.2)
	Intersection	F (550.1)	F (777.6)	F (515.3)	F (719.1)
Brick Yard Boulevard/Driveway & Muirkirk Road	Intersection	B (10.5)	A (8.2)	B (10.4)	A (7.9)
Old Baltimore Pike/Cedarhurst Drive & Muirkirk Road	EB-TR	-	-	F (78.7)	-
	NB-L	E (66.3)	E (60.5)	E (66.3)	E (60.5)

Intersection	Lane Group	2026 Action Condition		2026 Action Condition	
		AM	PM	AM	PM
	Intersection	C (28.7)	C (30.7)	E (56.6)	C (30.4)
Pasture Road/Snowden Woods Road & Muirkirk Road	NB-L	-	-	-	F (258.7)
	Intersection	A (0.9)	A (1.0)	A (1.3)	E (37.7)
Odell Road/Cedarbrook Lane & Muirkirk Road	Intersection	B (13.7)	C (20.3)	B (13.9)	C (22.4)
Laurel Bowie Road (MD 197) & Muirkirk Road/Crystal Plaza Driveway	EB-L	E (78.7)	F (82.9)	E (78.9)	F (84.3)
	EB-LT	E (76.6)	E (78.9)	E (76.8)	F (80.1)
	WB-LT	F (85.7)	F (101.3)	F (85.7)	F (101.3)
	NB-L	F (137.6)	F (125.3)	F (164.6)	F (126.1)
	SB-L	E (76.9)	F (83.1)	E (76.9)	F (83.1)
	Intersection	D (45.2)	D (52.9)	D (47.9)	D (53.7)
Odell Road & MRC Driveway	Intersection	-	-	A (0.5)	A (1.6)
Odell Road & Springfield Road	Intersection	A (7.2)	A (6.9)	A (7.3)	A (7.0)
Odell Road & Ellington Drive	Intersection	A (4.6)	A (3.5)	A (4.6)	A (3.5)
Powder Mill Road & Springfield Road	SB-LR	F (242.8)	F (295.7)	F (254.6)	F (325.8)
	Intersection	D (33.3)	F (52.2)	D (35.0)	F (59.6)

Phase 2 (2040) Action Alternative Capacity Analysis Results

The Phase 2 Action Alternative includes the analysis of the No-Action Alternative and Phase I Action Alternative added to the additional capacity that would occur at full build-out. The results of the capacity analysis indicate that the planned growth at the MRC would have a moderate, long-term, adverse impact on the study area intersections. Overall intersection delay would increase by less than 10 seconds per vehicle at all intersections except for the intersections of:

- Konterra Drive and MD 200 Off-Ramp
- Virginia Manor Road/Konterra Drive and Muirkirk Road
- Virginia Manor Road and Ritz Way
- Old Baltimore Pike/Cedarhurst Road and Muirkirk Road
- Muirkirk Road and Snowden Woods Road/Site Driveway (Pasture Road)
- Powder Mill Road and Springfield Road

Most intersections would operate at an overall LOS D or better except for the intersections of:

- Virginia Manor Road/Konterra Drive and Muirkirk Road
- Virginia Manor Road/Ritz Way (MD 212) and Virginia Manor Road
- Muirkirk Meadows Drive and Muirkirk Road

- Old Baltimore Pike/Cedarhurst Drive and Muirkirk Road,
- Muirkirk Road and Snowden Woods Road/Site Driveway (Pasture Road)
- Powder Mill Road and Springfield Road

These intersections would continue to operate at LOS E or F and experience an overall increase in delays. **Table 4-53** below indicates the lane groups at study intersections that would operate at an overall LOS of E or F (failing condition), as well as overall intersection LOS.

Table 4-53. Phase 2 Intersections Operating at LOS E or F

Intersection	Lane Group	2040 No-Action Condition		2040 Action Condition	
		AM	PM	AM	PM
Konterra Drive & MD 200 On-Ramp	Intersection	A (8.8)	A (6.2)	A (9.3)	A (9.0)
Konterra Drive & MD 200 Off Ramp	EB-R	-	-	F (116.8)	-
	Intersection	C (24.3)	B (20.0)	D (38.4)	C (21.9)
Virginia Manor Road/ Konterra Drive & Muirkirk Road	WB-R	F (53.6)	F (57.7)	F (63.9)	F (131.7)
	SB-L	F (345.6)	F (288.9)	F (442.7)	F (296.8)
	Intersection	F (128.3)	F (104.5)	F (168.0)	F (129.8)
Virginia Manor Road/ Ritz Way (MD 212) & Virginia Manor Road	SB-L	F (-)	F (-)	F (-)	F (-)
	Intersection	F (91.6)	F (56.8)	F (893.2)	F (57.0)
Muirkirk Meadows Drive & Muirkirk Road	NB-LTR	F (-)	F (-)	F (-)	F (-)
	SB-LTR	F (-)	F (-)	F (-)	F (-)
	Intersection	F (558.0)	F (651.3)	F (-)	F (611.2)
Brick Yard Boulevard/ Driveway & Muirkirk Road	Intersection	B (10.9)	A (8.3)	B (11.0)	A (8.3)
Old Baltimore Pike/ Cedarhurst Drive & Muirkirk Road	EB-TR	-	-	F (106.2)	-
	NB-L	F (91.1)	F (82.6)	F (91.1)	F (82.6)
	Intersection	D (35.7)	D (37.6)	E (73.6)	D (36.9)
Pasture Road/Snowden Woods Road & Muirkirk Road	NB-L	-	-	-	F (-)
	Intersection	A (0.9)	A (1.2)	A (1.4)	E (49.1)
Odell Road/Cedarbrook Lane & Muirkirk Road	Intersection	B (14.3)	C (22.3)	B (14.6)	C (24.9)
Laurel Bowie Road (MD 197) & Muirkirk Road/Crystal Plaza Driveway	EB-L	E (79.7)	F (84.4)	F (80.1)	F (86.2)
	EB-LT	E (77.4)	F (81.3)	E (77.0)	F (82.1)
	WB-LT	F (88.3)	F (116.1)	F (88.3)	F (116.1)
	NB-L	F (162.4)	F (144.5)	F (191.4)	F (146.7)
	SB-L	E (76.7)	F (86.6)	E (76.7)	F (86.6)
	SB-TR	-	E (59.9)	-	E (61.9)
	Intersection	D (51.0)	E (61.1)	D (54.1)	E (62.4)
Odell Road & MRC Driveway	Intersection	-	-	A (0.4)	A (1.5)
Odell Road & Springfield Road	Intersection	A (7.4)	A (9.0)	A (7.5)	A (9.2)
Odell Road & Ellington Drive	Intersection	A (4.7)	A (3.7)	A (4.7)	A (3.7)

Intersection	Lane Group	2040 No-Action Condition		2040 Action Condition	
		AM	PM	AM	PM
Powder Mill Road & Springfield Road	SB-LR	F (-)	F (-)	F (365.1)	F (-)
	Intersection	E (49.1)	F (-)	F (50.7)	F (-)

4.20.4 What Measures Would Be Taken To Reduce Impacts to the Roadway Network?

The analysis of the 2026/2040 No-Action and Action Alternatives indicate the need to provide intersection improvements to address deficiencies that would be present without the MRC growth, as well as deficiencies that are directly related to the planned MRC growth. The Phase I (2025-26) and Phase 2 (2040) Action with Mitigation Alternative analysis examines future anticipated volumes, taking into consideration traffic under the No-Action Alternative, as well as traffic that would be generated by the proposed growth of MRC employees and support staff.

Phase 1 (2025-26) Action with Mitigation Alternative

Given the built-out nature of the transportation network within the study area, emphasis was placed on improving overall intersection operations through adjustments, such as constructing signalized intersections and additional lanes for movements that would experience an increase in delay of at least ten seconds per vehicle.

Recommended mitigation measures include signal timing and coordination adjustments at the signalized intersections, as well as the following physical improvements:

Virginia Manor Road/Ritz Way (MD 212) and Virginia Manor Road (MD 206)

- Install a traffic signal that is coordinated with the other signals along Virginia Manor Road/Konterra Drive (MD 206). A roundabout could also be considered at this intersection but would require further investigation.

Muirkirk Meadows Drive and Muirkirk Road

- Install a traffic signal that is coordinated with the other nearby traffic signals on Muirkirk Road.

Old Baltimore Pike / Cedarhurst Drive and Muirkirk Road

- Construct separate right-turn only lane from eastbound Muirkirk Road to southbound Old Baltimore Pike.

Pasture Road / Snowden Woods Road and Muirkirk Road

- Install a traffic signal at the intersections. A roundabout could also be considered at this location. However, this would warrant further investigation as additional right-of-way (ROW) may be required.

Powder Mill Road and Springfield Road

- Install a traffic signal at this intersection and provide separate right and left-turn lanes on westbound and eastbound Powder Mill Road, respectfully. This is also a recommendation contained in the 2020 *Bureau of Engraving and Printing Transportation Impact Study*, prepared by Alliance Consulting Group.

Muirkirk Road/Crystal Plaza and Laurel Bowie Road (MD 197)

- Provide two northbound and southbound left-turn lanes from MD 197 to Muirkirk Road/Crystal Plaza.

Phase 1 (2025-26) Action Alternative with Mitigation Capacity Analysis Results

The proposed enhancements would result in intersections that operate at similar, or better, LOS when compared to the 2026 No-Action Alternative. There would be no intersections that would continue to operate at an overall LOS E or F. Lane groups that would operate at an overall LOS of E or F (failing condition) at study intersections are shown in **Table 4-54** in comparison to the Action Alternatives, as well as overall intersection LOS.

Table 4-54. Phase 1 Action Alternative with Mitigation– Lane Groups Operating at Overall LOS E or F

Intersection	Lane Group	2026 No-Action Condition		2026 Action Condition	
		AM	PM	AM	PM
Konterra Drive & MD 200 On-Ramp	Intersection	A (7.8)	A (5.5)	A (6.2)	A (6.3)
Konterra Drive & MD 200 Off-Ramp	EB-R	-	-	-	-
	Intersection	C (21.3)	B (9.7)	C (26.4)	B (19.6)
Virginia Manor Road/Konterra Drive & Muirkirk Road	EB-LT	-	-	E (75.6)	F (86.1)
	WB-L	-	-	E (70.6)	E (74.6)
	WB-TR	-	-	E (69.3)	E (62.4)
	WB-R	-	F (44.1)	-	-
	NB-T	-	-	E (57.6)	-
	SB-L	F (284.8)	F (235.8)	-	-
	Intersection	F (104.3)	F (85.2)	C (31.5)	D (36.8)
Virginia Manor Road/Ritz Way (MD 212) & Virginia Manor Road	SB-L	F (-)	F (392.8)	-	-
	Intersection	F (60.4)	E (36.7)	B (17.7)	B (14.7)
Muirkirk Meadows Drive & Muirkirk Road	NB-LTR	F (-)	F (-)	-	-
	SB-LTR	F (-)	F (341.1)	-	-
	Intersection	F (550.1)	F (777.6)	B (18.8)	B (11.3)
Brick Yard Boulevard/Driveway & Muirkirk Road	Intersection	B (10.5)	A (8.2)	B (12.1)	A (6.1)
Old Baltimore Pike/Cedarhurst Drive & Muirkirk Road	EB-TR	-	-	-	-
	NB-L	E (66.3)	E (60.5)	E (67.1)	-
	SB-TR	-	-	E (75.7)	-
	Intersection	C (28.7)	C (30.7)	C (30.7)	C (22.9)
Pasture Road/Snowden Woods Road & Muirkirk Road	NB-L	-	-	-	-
	Intersection	A (0.9)	A (1.0)	A (3.5)	B (19.3)
Odell Road/ Cedarbrook Lane & Muirkirk Road	Intersection	B (13.7)	C (20.3)	B (13.9)	C (22.4)

Intersection	Lane Group	2026 No-Action Condition		2026 Action Condition	
		AM	PM	AM	PM
Laurel Bowie Road (MD 197) & Muirkirk Road/Crystal Plaza Driveway	EB-L	E (78.7)	F (82.9)	E (78.0)	F (82.2)
	EB-LT	E (76.6)	E (78.9)	E (76.0)	E (78.2)
	WB-LT	F (85.7)	F (101.3)	E (79.2)	E (78.9)
	NB-L	F (137.6)	F (125.3)	E (78.7)	E (71.9))
	SB-L	E (76.9)	F (83.1)	E (76.5)	E (73.7)
	Intersection	D (45.2)	D (52.9)	D (38.0)	D (46.6)
Odell Road & MRC Driveway	Intersection	-	-	A (0.5)	A (1.6)
Odell Road & Springfield Road	Intersection	A (7.2)	A (6.9)	A (7.3)	A (7.0)
Odell Road & Ellington Drive	Intersection	A (4.6)	A (3.5)	A (4.6)	A (3.5)
Powder Mill Road & Springfield Road	SB-LR	F (242.8)	F (295.7)	-	-
	Intersection	D (33.3)	F (52.2)	B (14.7)	C (20.2)

Phase 2 (2040) Action Alternatives with Mitigation

The 2040 Action with Mitigation alternative includes the same improvements identified in the 2026 Action with Mitigation Alternative, as well as the following:

Konterra Drive and MD 200 Off-Ramp

- Provide a second eastbound right-turn lane from the MD 200 ramp onto southbound Konterra Drive.

Phase 2 (2040) Action Alternatives with Mitigation Capacity Analysis Results

The proposed enhancements would result in intersections that operate at similar, or better, LOS when compared to the 2040 No-Action Alternative. There would be no intersections that would continue to operate at an overall LOS E or F. Lane groups that would operate at an overall LOS of E or F (failing condition) at study intersections are shown in **Table 4-55** in comparison to the Action Alternatives, as well as overall intersection LOS.

Table 4-55. Phase 2 Action Alternatives with Mitigation Lane Groups Operating at Overall LOS E or F

Intersection	Lane Group	2040 No-Action Condition		2040 Action Condition	
		AM	PM	AM	PM
Konterra Drive & MD 200 On-Ramp	Intersection	A (8.8)	A (6.2)	A (7.0)	A (7.6)
Konterra Drive & MD 200 Off-Ramp	EB-R	-	-	-	-
	Intersection	C (24.3)	B (20.0)	B (16.7)	B (17.9)

Intersection	Lane Group	2040 No-Action Condition		2040 Action Condition	
		AM	PM	AM	PM
Virginia Manor Road/ Konterra Drive & Muirkirk Road	EB-LT	-	-	E (76.6)	E (75.6)
	WB-L	-	-	F (80.2)	E (77.8)
	WB-TR	-	-	E (78.8)	E (63.8)
	WB-R	F (53.6)	F (57.7)	F (81.5)	E (78.9)
	NB-L	-	-	E (56.4)	-
	SB-L	F (345.6)	F (288.9)	-	-
	Intersection	F (128.3)	F (104.5)	D (49.9)	D (51.7)
Virginia Manor Road/Ritz Way (MD 212) & Virginia Manor Road	SB-L	F (-)	F (-)	-	-
	Intersection	F (91.6)	F (56.8)	C (21.5)	B (13.1)
Muirkirk Meadows Drive & Muirkirk Road	NB-LTR	F (-)	F (-)	-	-
	SB-LTR	F (-)	F (-)	-	-
	Intersection	F (558.0)	F (651.3)	C (28.0)	B (13.1)
Brick Yard Boulevard/ Driveway & Muirkirk Road	Intersection	B (10.9)	A (8.3)	B (12.9)	A (7.2)
Old Baltimore Pike/ Cedarhurst Drive & Muirkirk Road	EB-TR	-	-	-	-
	NB-L	F (91.1)	F (82.6)	E (60.9)	E (58.8)
	SB-TR	-	-	E (68.7)	-
	Intersection	D (35.7)	D (37.6)	C (31.6)	C (29.1)
Pasture Road/Snowden Woods Road & Muirkirk Road	NB-L	-	-	-	-
	Intersection	A (0.9)	A (1.2)	A (3.7)	C (22.0)
Odell Road/ Cedarbrook Lane & Muirkirk Road	Intersection	B (14.3)	C (22.3)	B (14.6)	C (24.9)
Laurel Bowie Road (MD 197) & Muirkirk Road/Crystal Plaza Driveway	EB-L	E (79.7)	F (84.4)	E (78.8)	F (85.2)
	EB-LT	E (77.4)	F (81.3)	E (75.9)	E (61.9)
	WB-LT	F (88.3)	F (116.1)	E (79.3)	F (104.1)
	NB-L	F (162.4)	F (144.5)	E (78.5)	E (75.8)
	SB-L	E (76.7)	F (86.6)	E (77.9)	E (75.2)
	SB-TR	-	E (59.9)	-	-
	Intersection	D (51.0)	E (61.1)	D (41.4)	D (53.2)
Odell Road & MRC Driveway	Intersection	-	-	A (0.4)	A (1.5)

Intersection	Lane Group	2040 No-Action Condition		2040 Action Condition	
		AM	PM	AM	PM
Odell Road & Springfield Road	Intersection	A (7.4)	A (9.0)	A (7.5)	A (9.2)
Odell Road & Ellington Drive	Intersection	A (4.7)	A (3.7)	A (4.7)	A (3.7)
Powder Mill Road & Springfield Road	SB-LR	F (-)	F (-)	-	-
	Intersection	E (49.1)	F (2,236.9)	B (16.3)	C (26.5)

In addition to roadway improvements, the TMP developed for the MRC will help reduce SOV trips to and from the campus, as well as help FDA reach the NCPC required parking maximum of one parking space per two employees. The TMP includes several strategies to help encourage commuting via other modes. These strategies include, but are not limited to:

- Improving outreach and education to employees regarding their commute options.
- Providing onsite amenities, such as an onsite transportation hub, shower and locker room facilities, and services like banking and sundries, among others that may be desirable.
- Enhancing transit connectivity to the MRC by exploring potential options for shuttle connections to the Muirkirk MARC Station, as well as the Greenbelt and/or College Park Metrorail stations.
- Working with other nearby agencies and campuses to advocate for improved transit services from agencies such as WMATA, MTA, and Regional Transportation Agency of Central Maryland (RTA).
- Establishing a carpooling and vanpooling program.
- Providing connections to the White Oak Campus.
- Reducing peak period travel demand through telecommuting and flexible/alternative work schedules.
- Establishing parking policies that encourage other commute modes.
- Enhancing pedestrian and bicycle connections.

4.20.5 What Transit Facilities And Services Are Available At And In The Vicinity Of The MRC?

There is limited transit service in the vicinity of the MRC. The only transit route that directly serves the MRC is RTA Route 302. RTA Route 302 operates at approximately one-hour headways and provides local service that connects the Towne Centre at Laurel to the Greenbelt Metro Station. It should be noted that the MRC acts like an end station on the route. Buses turn around on Muirkirk Road at the MRC entrance and proceed back west to continue along the designated route.

WMATA Bus Route 89M services the overall study area with connections to the South Laurel Park-and-Ride Lot and to the Greenbelt Metrorail station. The bus stop is located within the study area on Ritz Way west of Baltimore Avenue. Buses arrive approximately every 30 minutes during peak times and approximately every hour during weekday off-peak times. There is no service on weekends. The nearest stop is approximately two miles from the MRC.

The Muirkirk Station on Maryland Area Regional Commuter's (MARC) Camden Line is located approximately 1.5 miles from the MRC (**Figure 4-45**). The Camden Line service operates from 6:00 AM to 9:00 AM and from 3:30 PM to 9:00 PM on weekdays only. There is no weekend or off-peak service. Trains arrive approximately every 30 minutes. Bus service to the station is provided through RTA Route 302, which stops at the station every hour on weekdays, and also serves the MRC.

Source: MDOT MTA, 2020

Figure 4-45. MARC System Map with Commuter Buses

The MRC is approximately 6.5 miles from the Greenbelt Metro Station on Metrorail's Green Line. The Green Line operates between Branch Avenue and Greenbelt in Prince George's County and has 21 stations and three transfer points to other Metrorail lines (**Figure 4-46**). The line runs along the same path as the Yellow Line from L'Enfant Plaza to Fort Totten at all times, and from L'Enfant Plaza to Greenbelt only during rush hours. The line operates at an 8- to 12-minute headway during weekdays and Saturdays, a 15-minute headway on Sundays, and 20-minute late-night headways. The Greenbelt Station, which is the closest station to the MRC, has 3,875 parking spaces, 81 bike racks, 38 lockers, and numerous bus service connections, including RTA Bus Route 302 to Laurel, which stops at the MRC driveway on Muirkirk Road (**Figure 4-47**).

Source: WMATA, 2019

Figure 4-46. Metro System Map

Source: RTA, 2021

Figure 4-47. Regional Transit Authority Route 302

4.20.6 How Would Local Transit Be Affected By Implementation Of The Master Plan?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. There would be no changes to the existing local transit network. Therefore, there would be no new impacts to transit as a result of the No-Action Alternative.

Alternatives A, B, and C (Action Alternatives)

The results of the commuter survey indicate that less than one percent of employees currently commute to the MRC via transit. This is likely due to the very limited bus service currently provided and the distance to other regional transit connections on the MARC Camden Line and the Metrorail Green Line. The planned increase in employees at the MRC is anticipated to have a negligible impact on the existing transit system, as the current transit options are not a viable option for most commuters.

4.20.7 How Do Bicycle Commuters Access The Site And How Would Access Be Affected By Implementation Of The Master Plan?

The results of the commuter survey reveal that no employees currently walk or bike to the MRC. This is primarily due to the absence of bicycle and pedestrian facilities on the surrounding roadway network. Furthermore, there are no connecting pedestrian or bicycle facilities at the MRC. The Master Plan, as well as the TMP, recommend providing onsite bicycle and pedestrian facilities that would eventually connect to planned pedestrian and bicycle infrastructure on Muirkirk Road and Odell Road. Therefore, access for bicycle and pedestrian commuters would be improved with the implementation of the Master Plan.

4.20.8 What Measures Would Be Taken To Enhance Access To Transit Facilities And Services, And Bicycle Routes?

The MRC TMP includes several recommendations for enhancing access to the MRC for pedestrian, bicycle, and transit commuters. These recommendations include:

Pedestrian/Bicycle Enhancements

- Coordinate with Prince George's County to construct planned pedestrian and bicycle improvements on Muirkirk Road and Odell Road, such as bike lanes and sidewalks, or a multi-use pathway.
- Provide shower and locker facilities on campus that can be accessed by all employees.
- Provide sheltered bicycle racks near building entrances. Sheltered bicycle racks should also include tool and pump stations to allow employees to maintain their bicycles and/or electric bike charging capability.
- Design the site to be pedestrian and bicycle friendly by:
    - Providing bicycle and pedestrian connections to Muirkirk Road.
    - Providing bicycle and pedestrian connections between all buildings and parking areas.

- Ensuring that all security entrances have pedestrian and bicycle access.
- Coordinating with Prince George's County to establish a bikeshare or scooter system along the proposed multi-use path and within the surrounding community with stations that include the MRC transportation hub, the Muirkirk MARC station, the Brick Yard, Konterra (future), and other nearby destinations.

Transit Connections

- Work with other nearby agencies and campuses to coordinate with WMATA, Maryland Transit Authority (MTA), and RTA to identify opportunities for new or improved transit service to the MRC and surrounding agencies.
- Construct a transportation hub on campus that can accommodate buses, shuttles, transportation network companies, and future autonomous vehicles.
- Provide a shuttle connection to the Muirkirk Station.
- Explore the feasibility of providing a shuttle connection to the College Park Metrorail Station, and/or Greenbelt Metrorail Station.

4.21 UTILITIES

4.21.1 Assessment Methodology

Impacts to water service, the sanitary sewer system, electrical service, and natural gas service were analyzed based on the characteristics of the current systems and services and the requirements for construction and operation of the MRC.

The impact thresholds for utilities are provided in **Table 4-56**.

Table 4-56. Impact Intensity Thresholds for Utilities

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
Intensity	Non-discernable impacts to utility service from construction activities during replacement or extension of lines	Slight, but detectable impacts to utility service during replacement or extension of lines Slight, but detectable increase in 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 utility service during replacement or extension of lines that would result in severe service outages Significant increase in 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

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
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

4.21.2 Who Provides Utility Service To The MRC?

Domestic Water

WSSC provides potable water to the MRC. According to the 1994 design plans for the MOD 2 site, there is an existing 10-inch water line connecting to the 16-inch WSSC water main in Muirkirk Road[8] (**Figure 4-48**). This 10-inch line runs along Pasture Road, past the MOD 1 and MOD 2 buildings, and then down to the South Loop Road at the Animal Research Facility. The 10-inch line, and smaller branches off this line, provide service to the buildings and other facilities in that area, including down to the Animal Waste Area (located south of the loop road, near Odell Road). A well is located near Building H that appears to only serve the building. Building H also gets water from the 10-inch water line. A 3-inch branch off the 10-inch water line runs east along Service Road #4 to serve the pasture area.

In a Letter of Findings (LOF) to GSA, WSSC stated that a new water service connection to serve the new development at the MRC site could be provided from the existing 16-inch WSSC water main running along Muirkirk Road, north of the site (WSSC, 2017). Portions of this pipe are made of cast iron and it is preferred that a new site water connection be made with ductile iron pipe (DIP). The existing pipe west of the main site entrance on Muirkirk Road is ductile iron, so a new water connection should be in that area.

There is also an existing 24-inch WSSC water main line running along Odell Road. The BRF gets water from a 6-inch connection to this 24-inch line.

Sanitary Sewer

WSSC provides sanitary sewer service to the MRC. Sewer service is provided to all the buildings by gravity lines that flow down to pumping stations (**Figure 4-48**). There is a pump station located in the Animal Research Facility area, one near Building F, and one in the BRF area. A gravity sewer line takes flows from the MOD 2 building and runs down to a sewer pump station near Building E in the Animal Research Facility area. This, and other sewer flow from the Animal Research Facility area, is pumped through a force main pipe which travels back up towards MOD 2, then eastward along the pasture service road, and then to the northeast to the BRF area, where it connects to a manhole on a gravity sewer line. This gravity sewer line runs to the northeast and out to Muirkirk Road (WSSC 8301 MOD 1 and 8501 BRF). There are two other force main pipes that discharge into this same manhole. One line comes from a pump station on the BRF site, and the other comes from the MOD 1 building. There is also a holding tank serving the Animal Waste Area in the Animal Research Facility area.

[8] Information received from WSSC did not confirm this water connection point.

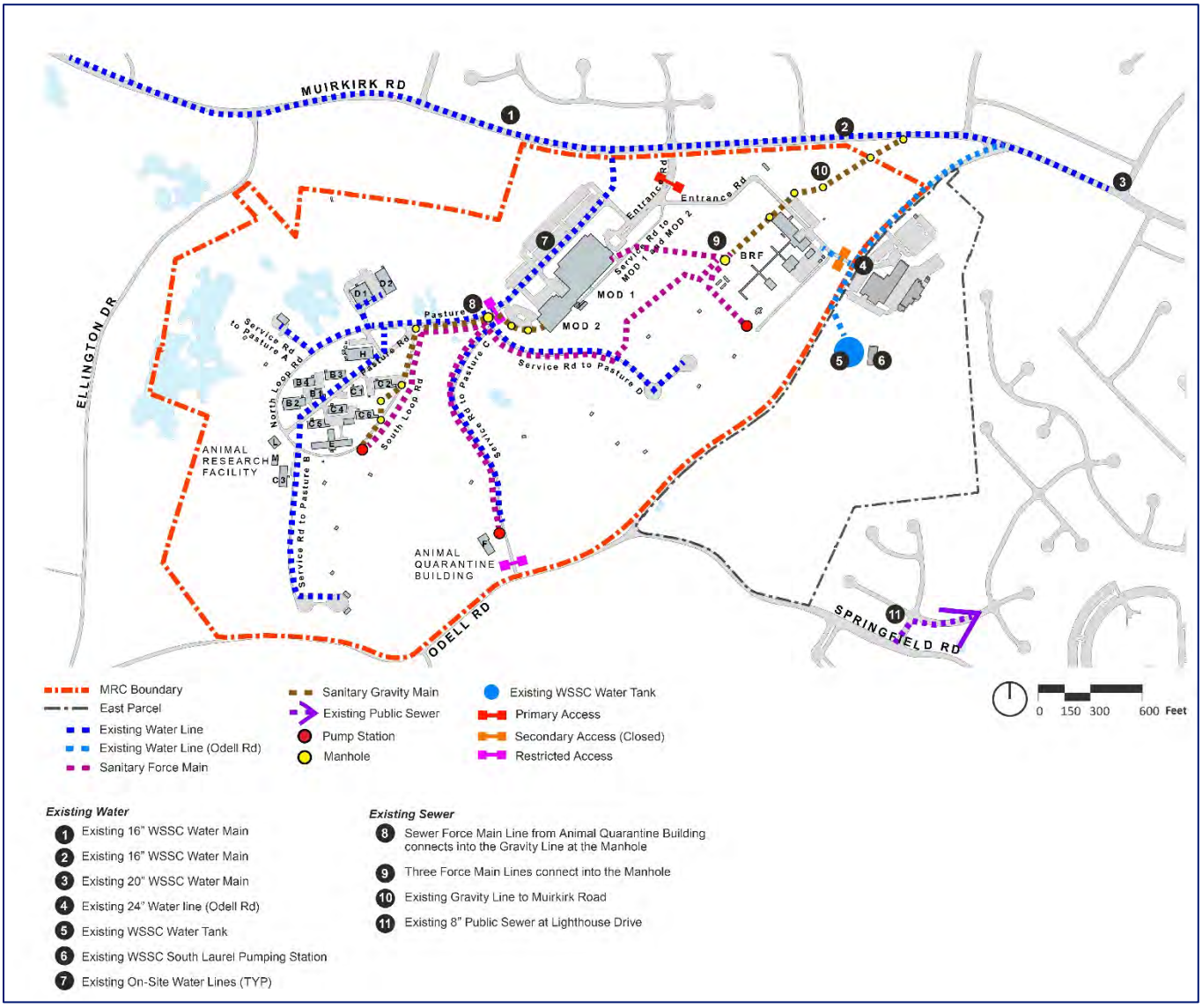


Figure 4-48. Existing Water and Sewer

The MOD 1 building pretreats some of its wastewater; all drains from the laboratories are piped to an acid neutralization tank, monitored for acidity or alkalinity, and neutralized prior to being ejected to the WSSC sewer connection. Wastewater from cage, rack, and bottle washing is collected separately from other sanitary waste and is automatically monitored for pH and neutralized prior to being released to the WSSC sewer connection (GSA, 1995). MOD 2 has a pH treatment station on the ground floor that treats all Lab waste, autoclaves, and bottle washers (FDA, 2021).

WSSC confirmed that an existing WSSC 8-inch public sanitary sewer line is sufficient to provide service needed to implement the Master Plan. This sewer line is located southeast of the MRC, at the intersection of Springfield Road and Lighthouse Drive and is part of the Parkway Sewer Watershed.

Electrical Power and Gas and Telecom

Electrical power on the MRC is provided by Potomac Electric Power Company (PEPCO). There are existing power poles running down both sides of Muirkirk Road and on the west side of Odell Road. Two pole lines enter the MRC site between Pasture Road and Westlock Place and run to a substation. There are two electric feeders that run from the substation to the BRF and to the MOD 1 and MOD 2 buildings. One of the feeders from the substation to MOD 1 was replaced January of 2021. The current plan is to replace the second feeder and the substation by the end of 2021. This existing underground electric and telecom duct bank runs along the south side of MOD 1 and MOD 2 and then down along Pasture Road to the Animal Research Facility. The duct bank branches out and provides electric and telecom service to the buildings and other facilities in that area, including the Animal Waste Area and the pasture areas, through underground and overhead lines.

Natural Gas on the MRC is provided by Washington Gas. There is an existing high pressure main line adjacent to Muirkirk Road. Gas service enters along the main entrance road and then runs down to the ARF area. Gas service lines also come off Odell road to service Building F as well as the BRF area. There is an existing system of underground hot and chilled water lines serving the buildings in the Animal Research Facility.

4.21.3 How Would Implementation Of The Master Plan Impact Utilities?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The No-Action Alternative would not result in additional staff being located at the MRC. WSSC would continue to provide water and sanitary sewer services to the MRC. Washington Gas would continue to provide natural gas, and PEPCO would continue to provide electrical power. No changes to utility demands would occur. Therefore, no adverse impacts to utilities would occur under the No-Action Alternative. The MRC substation replacement project, replacement of AHUs, and replacement of generators at the MRC would remove outdated systems, resulting in beneficial impacts to utilities.

Alternatives A, B, and C (Action Alternatives)

Under all the Action Alternatives, construction of new utility lines both on and off the MRC could result in temporary service disruptions both onsite and at adjacent properties. This impact would be temporary, and relocation of new connections of utility lines would be completed with the least amount of disruption possible to other users. Utility providers would be consulted prior to construction and any proposed relocations of utility lines would be coordinated to minimize disruption. Therefore, all Action Alternatives would result in negligible, short-term, adverse impacts to utility service on and adjacent to the MRC.

Domestic Water

Implementation of the Master Plan would result in increased demand for water service. WSSC conducted a System Planning Forecast (SPF) to review the water and sewer demands for the proposed Master Plan development. The “Letter of Findings” for the SPF, issued on June 28, 2017, concluded that WSSC can provide water service to the expanded site and a new connection could be made to the existing water main in Muirkirk Road without requiring any new public water extension. This new connection to the Muirkirk Road water main would provide redundancy to the site for water service. It also concluded that pressure reducing valves would be required for buildings with first floor elevations below 233 feet, and booster

pumps would be required for buildings with first floor levels above elevation 265 feet. The Letter of Findings further concluded that new connections to the 24-inch line in Odell Road are not recommended and may not be possible due to pipe integrity issues and because this 24-inch line connects the WSSC South Laurel reservoir and pumping station and may be shut down at times for operational purposes. Because the existing water supply would be able to accommodate the increased demand for water service on the MRC, the impact to the regional water supply would be negligible, long term and adverse.

The existing 10-inch water line running along Pasture Road would provide water to some of the new buildings planned near MOD 2. A new 10-inch or 12-inch water service line would connect to the existing 16-inch WSSC water main line at Muirkirk Road just west of the existing main entrance. New onsite water lines would connect to the existing water lines and then run east to provide water service to the buildings planned in the BRF area.

The potable water system materials would be per local WSSC specifications. Distribution piping would be high-pressure Polyvinyl chloride (PVC) or DIP. The new buildings would be fitted with sprinkler systems and fire hydrants would be installed along the site water system to provide adequate fire protection coverage. Adequate emergency access would be provided around the buildings. Proposed water plans for the Action Alternatives can be found in **Figure 4-49** through **Figure 4-51.**

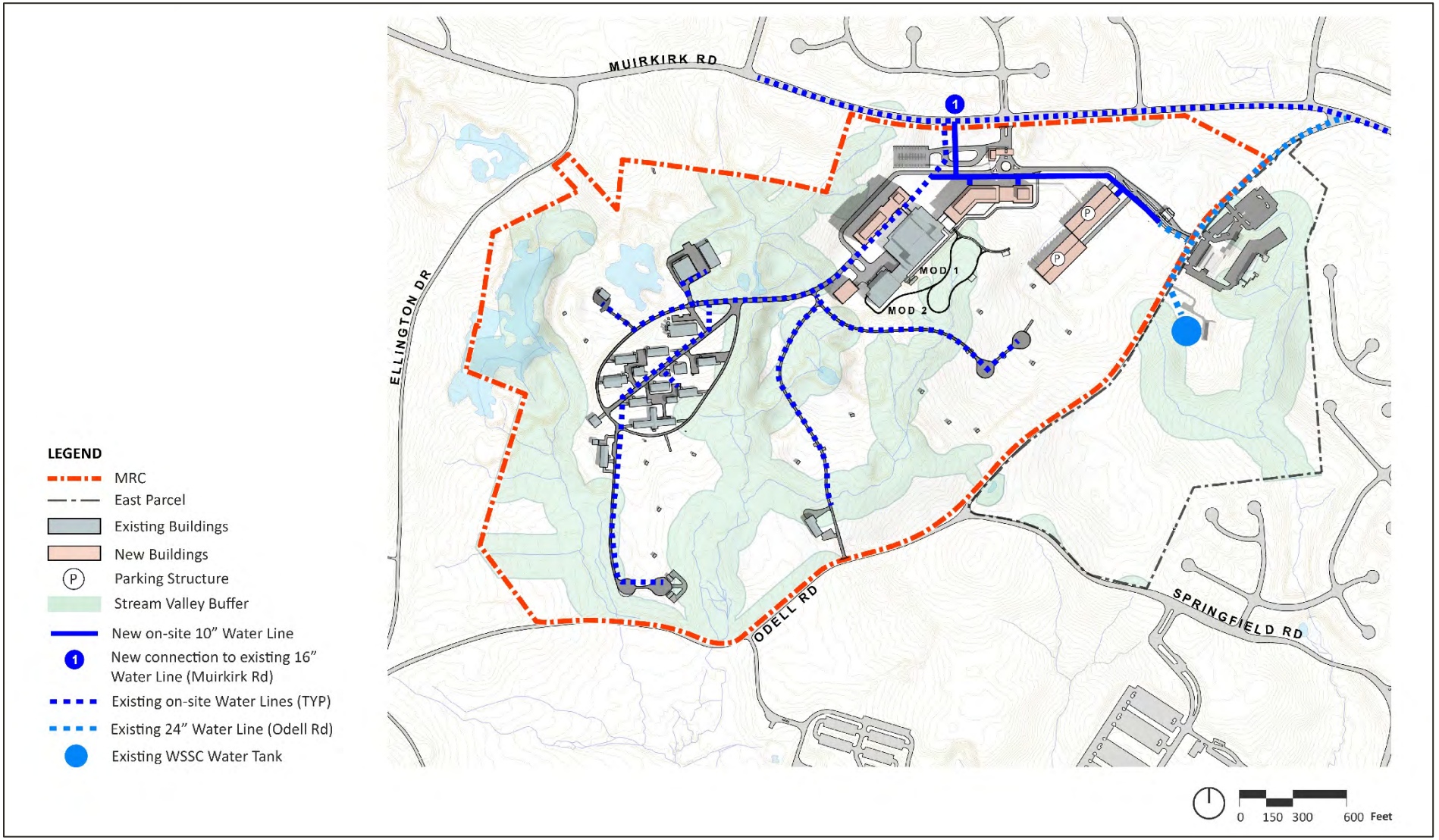


Figure 4-49. Alternative A Proposed Water Plan

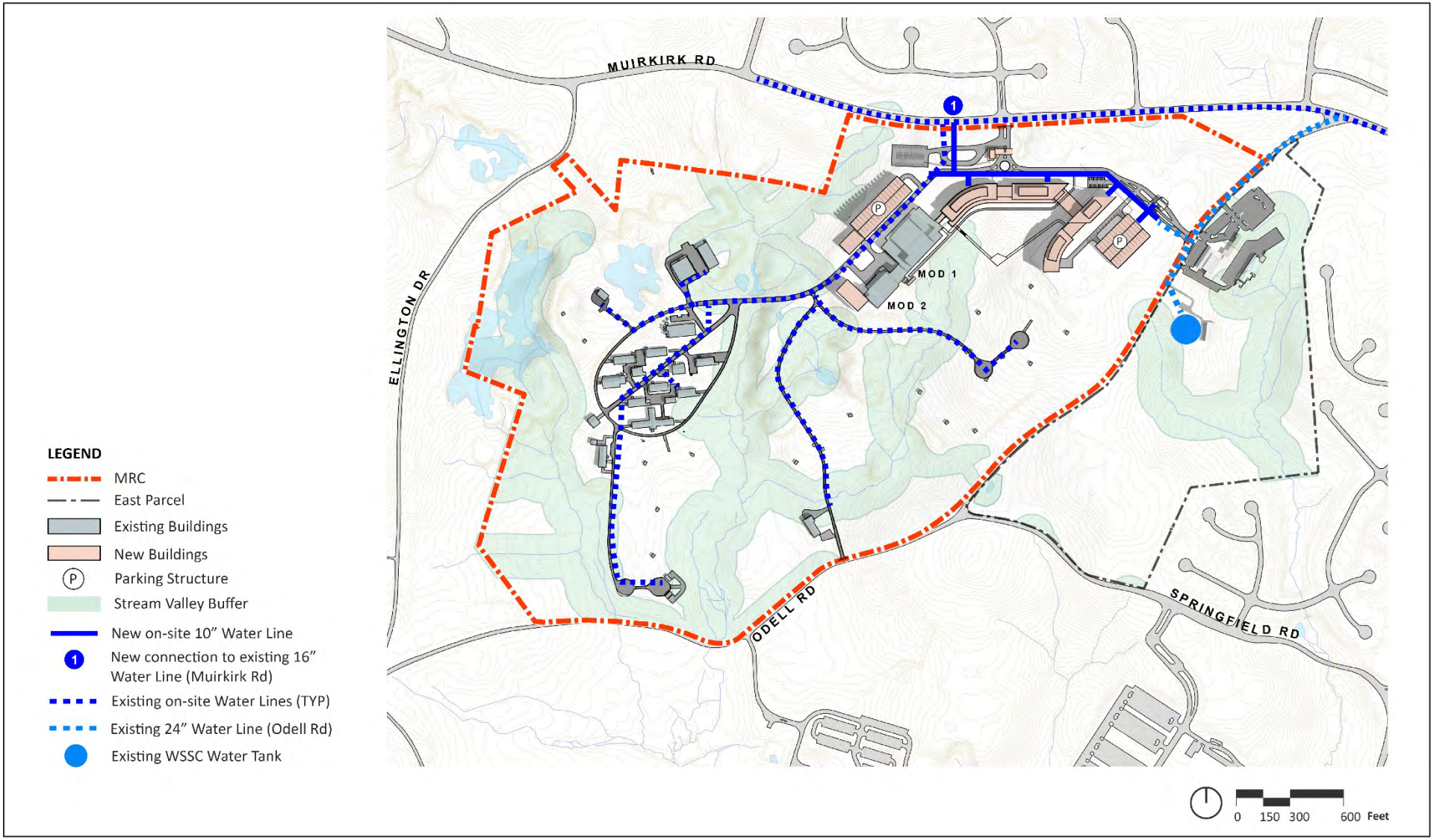


Figure 4-50. Alternative B Proposed Water Plan

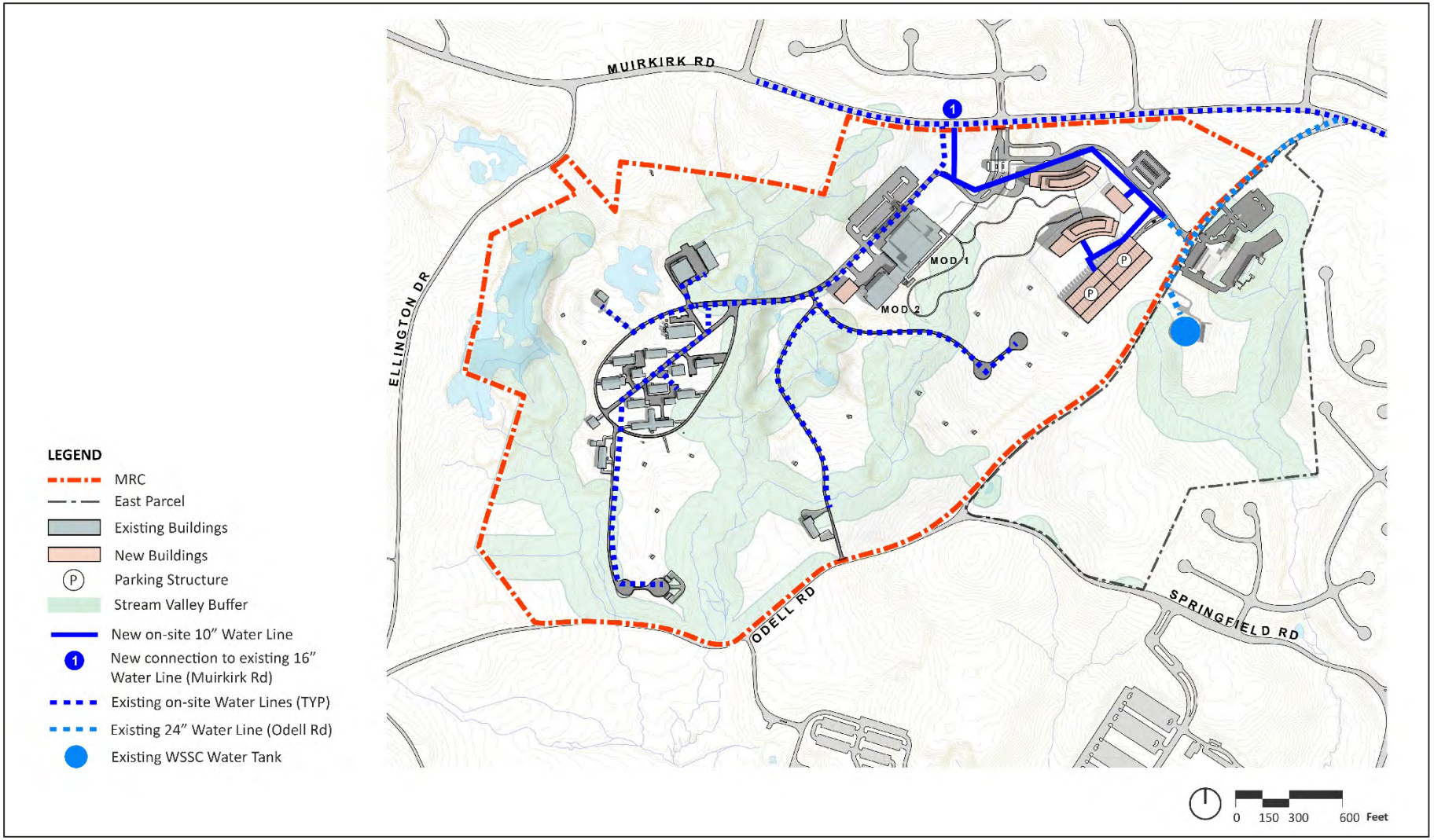


Figure 4-51. Alternative C Proposed Water Plan

Sanitary Sewer

Under all Action Alternatives, the proposed addition of employees and support staff on the MRC would result in an increased demand for sanitary sewer service. Because the existing system can handle the new facilities, a negligible, long-term, adverse impact would occur. In the Letter of Findings for the SPF, WSSC concluded that the required sewer service is available to the expanded site and that an existing 8-inch public sewer line at Lighthouse Drive can provide sewer service to the new development at MRC. However, FDA would need to construct a new offsite public sewer extension along Springfield Road, from Lighthouse Drive to the MRC site boundary, to obtain expanded sewer service to the site.

Under each Alternative, new onsite sewer lines would run from the new buildings, across the site, down to the MRC property boundary near Odell Road, then along the boundary and down to Springfield Road. The new sewer outfall pipe would go offsite (becoming a public line), cross Odell Road, run along Springfield Road, and ultimately connect to a WSSC sewer main at Lighthouse Drive (**Figure 4-52** through **Figure 4-54**).

Under Alternatives A and B, sewer service from MOD 2 and the new buildings planned in that area would be conveyed to the southeast in a new gravity sewer line. This new sewer line would run across the stream valley buffer, and down to the new 8-inch sewer line along Springfield Road (described above). The sewer force main running from the Animal Research Facility could be tied into this new gravity sewer line or into the new gravity sewer line at the BRF area. The sewer force main coming from MOD 1 would be tied into the new gravity sewer line in the BRF area, and the pump station and force main in the BRF area would be removed.

Under Alternative C, a new gravity sewer line could serve the new Maintenance & Storage Building (near MOD 2) while also collecting the sewage from MOD 2 and the force main coming from the Animal Research Facility. The sewer flows would be conveyed down to Springfield Road in the new gravity sewer line (as described in Alternatives A and B above). As an option for Alternative C, sewage from the new Maintenance & Storage Building could go into the existing gravity line running to the Animal Research Facility pump station, and the existing force main from the Animal Research Facility to the BRF would be tied into the new gravity sewer line at the BRF site, which would in turn convey the flow down to Springfield Road. The first option increases construction cost but reduces the load on the pump station at the Animal Research Facility. New sanitary sewer piping would be made of PVC.

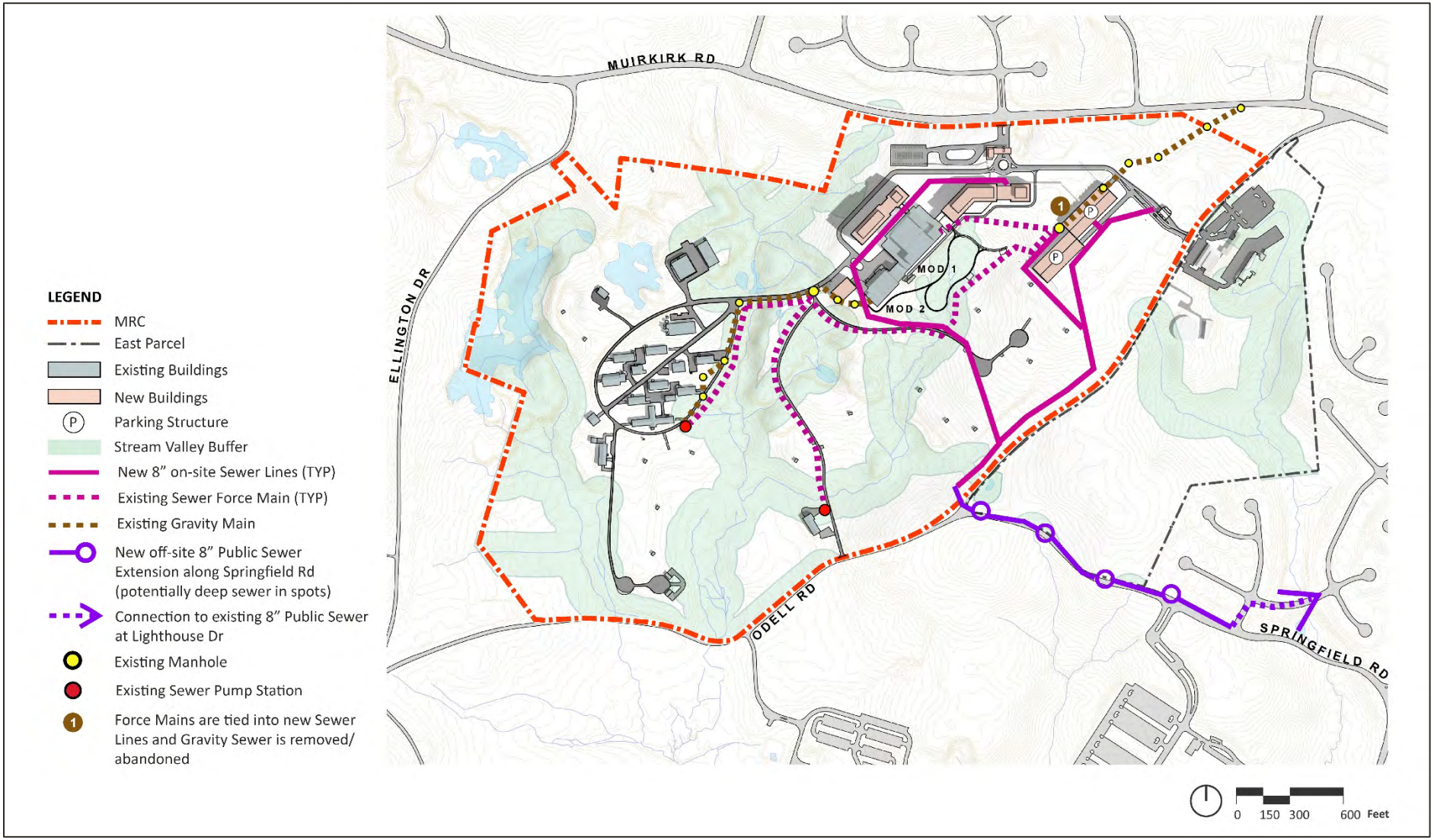


Figure 4-52. Proposed Sewer Service Plan for Alternative A

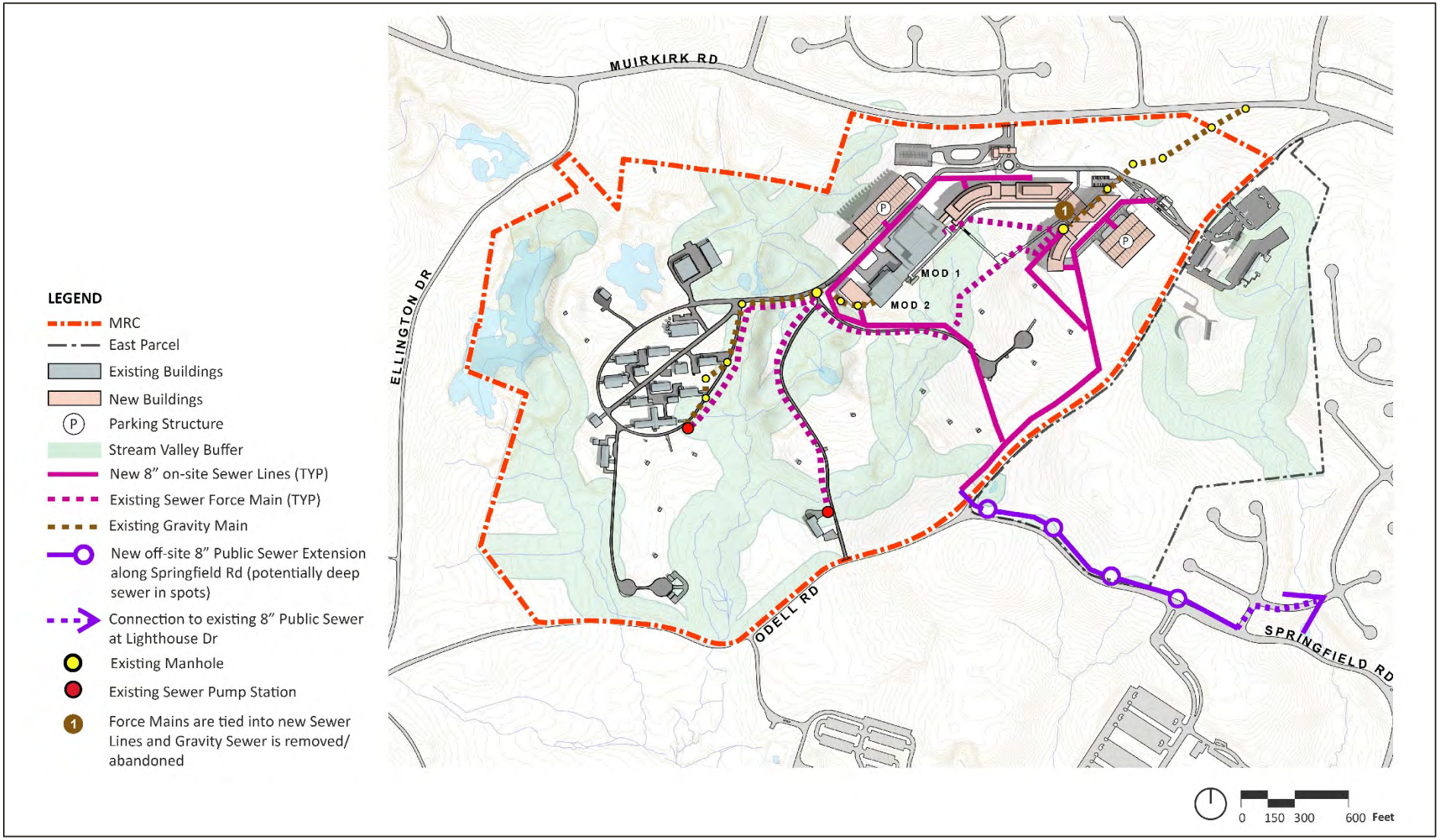


Figure 4-53. Proposed Sewer Service Plan for Alternative B

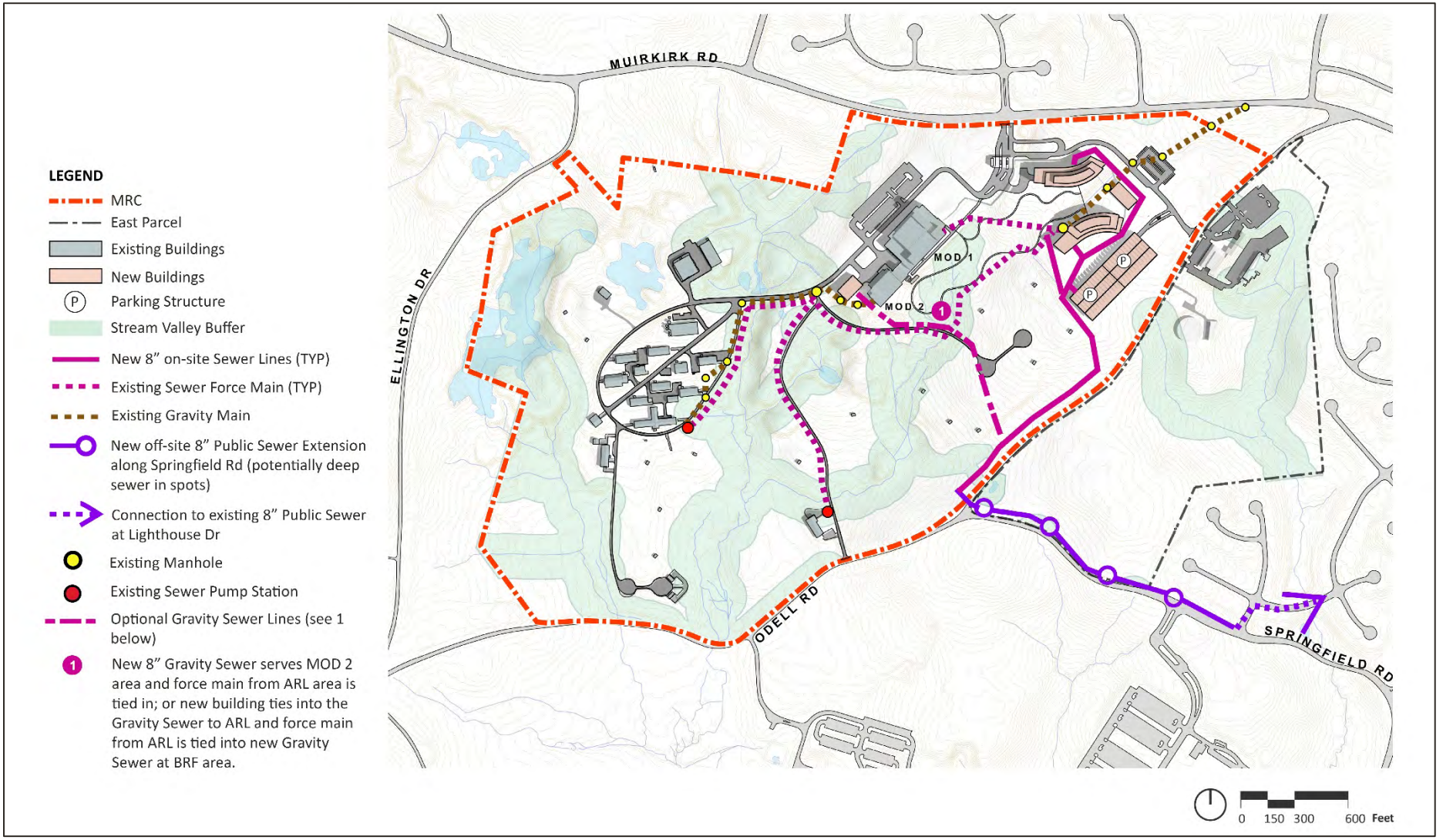


Figure 4-54. Proposed Water Service Plan for Alternative C

Electrical Power, Gas, and Telcom

Under all Action Alternatives, the proposed addition of employees and support staff on the MRC results in an increased demand for electrical, HVAC, and telecom services. PEPCO would provide the additional power needed for the new development. As design commences, PEPCO would be engaged in the planning. The existing underground electric and telecom duct bank serving the MOD 1 and MOD 2 buildings would need to be relocated as it falls within the footprints of the proposed buildings for each of the Action Alternatives. Even though the existing systems would be able to handle the additional demand, a negligible, long-term, adverse impact would occur from an increase in demand.

4.21.4 How Would Impacts To Utilities Impacts Be Reduced?

The proposed new buildings and parking structures would include water-efficient landscaping and fixtures that would reduce potable water usage. Rooftop rainwater harvesting (i.e., green roofs) would be employed when possible, and rainwater would be reused for toilets and cooling towers, reducing the demand for potable water used for irrigation. Other sustainable design measures would include rooftop solar panels, active and passive solar techniques, high-efficiency lighting and occupancy sensors, modern and efficient heating and cooling equipment, natural ventilation systems, and ENERGY STAR® appliances. LEED® Gold certification and net zero energy usage would be achieved for all new buildings.

4.21.5 How Would Energy Conservation Measures Be Incorporated Into The Redevelopment Of The MRC?

All Action Alternatives would be constructed and operated in accordance with the EISA of 2007, which require Government agencies to:

- Reduce energy consumption per square foot by 2.5 percent annually through 2025, relative to 2015 baseline;
- Improve and monitor the energy optimization, efficiency, and performance of new and existing data centers;
- Ensure that 25 percent of the total amount of building electric and thermal energy should come from clean energy sources by 2025;
- Reduce potable water consumption intensity by 2 percent annually through 2025, relative to 2007;
- Reduce industrial, landscaping, and agricultural water consumption by 2 percent annually through 2025, relative to 2010 baseline;
- Monitor and collect water balance data to improve water conservation and management;
- Install appropriate green infrastructure features on Federal property; and
- Reduce greenhouse gas emissions from agency-owned vehicles by 30 percent by the end of 2025, relative to 2014 baseline.

GSA's and FDA's goal is to achieve LEED® Gold certification and net zero energy and water usage for all new buildings on the MRC. By achieving LEED® Gold certification and net zero energy and water usage, the new buildings under the Master Plan would minimize the adverse impact to utilities. Sustainable design and energy conservation measures would include rooftop solar panels, active and passive solar techniques, high-

efficiency lighting and occupancy sensors, modern and efficient heating and cooling equipment, natural ventilation systems, and ENERGY STAR® appliances.

4.22 ENVIRONMENTAL CONTAMINATION

CERCLA was enacted by Congress in 1980. CERCLA provided authority to the Federal Government to respond directly to releases and threatened releases of hazardous substances which have the potential to endanger public health or the environment. Section 312 of CERCLA (40 CFR 312) provides standards and practices for EPA's "all appropriate inquiries" (AAI) for the purposes of CERCLA sections 101(35)(B)(i)(1), 101(35)(B)(ii), and 101(35)(B)(iii). An AAI is the process for evaluating the environmental conditions of a property and assessing who is potentially liable for any contamination. A Phase I Environmental Site Assessment (ESA) meets the requirements of an AAI. Various investigations have been performed to locate areas where hazardous materials may exist and characterize potential contaminants. These findings are documented in the Phase I ESA conducted in February 2021 (Stantec, 2021a). Key findings are presented below.

4.22.1 Assessment Methodology

Impacts from environmental contamination were analyzed based on the characteristics of contamination within the MRC with the requirements for demolition, construction, and operation of the alternatives.

The impact thresholds for environmental contamination are provided in **Table 4-57**.

Table 4-57. 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 MRC and effect the area within the general vicinity of the MRC	Localized (i.e., confined to the project sites) with high probability to extend beyond the MRC and effect the area within the general vicinity of the MRC

Effect Characteristics	Impact Level			
	Negligible	Minor	Moderate	Major
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

4.22.2 What Hazardous Materials Are Located at the MRC?

Previous activities on the MRC have required the use, handling, or storage of hazardous materials. These activities included (but are not limited to): medical uses, laboratory testing, and heating. In order to power the main laboratory and related facilities at the MRC, 10 emergency diesel-powered generators, multiple large-scale and step-down transformers, and one electrical substation are located at the MRC. There are no polychlorinated biphenyls (PCBs) in onsite transformers.

Radioactive products are utilized in laboratory experiments in the MOD 1 and MOD 2 buildings. There are no elevated radiation levels at the property as a result of the licensed use of radioactive materials (personal communication, 2021b).

The following underground storage tanks (UST) were observed during the Phase I ESA:

- One 5000-gallon fiberglass-reinforced plastic diesel fuel UST, which was installed in March 1998. It is located immediately northeast of the BRF main building and provides backup fuel for the boilers in the BRF.

- Two 30,000-gallon fiberglass-reinforced plastic heating oil USTs were installed in January 1998 and are located in a landscaped area between the MOD 2 building and the main parking lot. They provide fuel for the generators and boilers in the MOD 1 and MOD 2 buildings.

- Two other USTS are located in the western part of the MRC outside the study area.

The USTs appeared to be in good condition with no visible evidence of releases, other than the monitoring wells around the two 30,000-gallon USTs. There was no evidence of any former USTs, which were removed from the location where the current USTs are buried.

The following ASTs are currently in use at the MRC.

- One 185-gallon diesel AST is located adjacent to the BRF main building to power an emergency generator, as needed. The AST is approximately seven years old (personal communication, 2021a).

- One approximately 500-gallon liquid nitrogen AST is located in a fenced enclosure adjacent to the north side of the MOD 2 building. This AST is used to store liquid nitrogen for use in laboratory experiments.

- One 825-gallon heating oil AST is located in a gated enclosure in concrete secondary containment tub at the basement level of the east corner of the MOD 1 building. This AST is used to fuel emergency generators.

- Two 500-gallon propane ASTs are located between the BRF main building and a large contractor shed. They appeared to be rusted and have been abandoned and empty for at least 15 years (personal communication, 2021a). Their previous function is unknown, but they may have been used to power additional research equipment in the BRF.

- Several small (approximately 10-gallon) heating oil day-tanks are located adjacent to the large generators in the MOD 1 and MOD 2 buildings to provide emergency fuel on short notice.

- 200-gallon or smaller plastic ASTs of sodium hydroxide and sulfuric acid solutions are located in each of the four pre-treatment rooms of the MOD 1 and MOD 2 basements.

Other than the worn propane tanks, the ASTs were observed to be in good condition, with no visible evidence of a release. No visible evidence of former ASTs (e.g., concrete pads, fill pipes, vent pipes, dispensers, surface stains) was observed during the Phase I ESA.

Additionally, in addition to the heating oil and diesel fuel USTs and ASTs, ten emergency diesel-powered generators, multiple large-scale and step-down transformers, and one electrical substation provide power to the main laboratory and related facilities in the study area. There are no polychlorinated biphenyls (PCBs) in onsite transformers (personal communication, 2021a).

The following hazardous substances and petroleum products are currently in use at the MRC.

- 5-gallon diesel engine oil containers are staged near each generator for lubrication.
- 25 percent solutions of sulfuric acid and sodium hydroxide are staged in 55-gallon plastic drums in the four pre-treatment rooms in the basements of the MOD 1 and MOD 2 buildings for treatment of laboratory and other wastewater before discharge to the sewer system. Approximately 250 gallons or less of each are stored in the study area at any time. There was no evidence of release from these drums, and they are not considered to be RECs with respect to the study area.
- A variety of medicinal drugs, detergents, disinfectants, and other animal care products are stored and used in animal research in amounts ranging from 1 to 200 gallons throughout the MOD 1 and MOD 2 buildings, and BRF main building. Five-gallon or smaller containers of commercial-grade cleaning supplies are also staged in janitorial closets of these buildings. Lubricants, pH inhibitors, and industrial cleaning agents are staged and used in the mechanical (boiler, generator rooms) of these buildings. There was no apparent evidence of a release of any of these chemicals, which were stored in accordance with manufacturer recommendations.
- Flammable/ignitable/pressurized gas canisters (oxygen, carbon dioxide, nitrogen) used for experiments are stored in labeled, secured rooms near the loading racks of the MOD 1 and MOD 2 buildings.
- Empty 55-gallon drums are located on the loading dock on the south side of the MOD 1 building and near the northeast side of the BRF main building. These are intended for disposal after being exhausted of sulfuric acid and other chemicals used onsite and are not considered to be RECs with respect to the study area.
- Ride-on lawnmowers, paint cans, and 3- to 5-gallon gasoline canisters are located in locking sheds and cabinets on the east side of the BRF. There was no staining visible in the interior of the sheds; the cabinets and canisters appeared to be in good condition; and there was no evidence of disturbed vegetation around them.

- Diesel runabout vehicles are also stored and used throughout the study area where needed. They are fueled and maintained on a separate portion of the MRC outside of the study area.
- Wastewater from animal care, washing out animal cages, decontamination from laboratory experiments, and mechanical room slop sinks are all discharged to the pre-treatment rooms in MOD 1 and MOD 2 before final discharge to the municipal sewer.
- There are sumps in four rooms of the basements of the MOD 1 and MOD 2 buildings to collect groundwater and wastewater from the laboratory spaces. The water in the sumps is tested and treated with either sulfuric acid or sodium hydroxide, depending on pH, and then discharged to the northeast to the municipal system via Muirkirk Road.
- Outside of the study area within the Animal Research Facility, an authorized aquaculture radiation laboratory is present. There are affluent collection containers designed to store potentially contaminated water until such time as the water is below acceptable levels or FDA acquires appropriate clearance before discharge.
- Three storage buildings behind the BRF were initially installed as radiation/mixed-use waste storage areas. Only one building has ever been used and the other two serve as non-radiation storage. The radiation storage building has been decommissioned and released for general use (personal communication, 2021c).

Based on the findings from the Phase I ESA, no Recognized Environmental Concerns (RECs[9]) or Controlled RECs[10] were identified within the study area during the Phase I ESA. Potential features of environmental concern can be found in **Figure 4-55**.

Historical Recognized Environmental Concerns[11] (HREC), described below, were identified in connection with the MRC. Each of these HRECs have been addressed and conditions signed off by the MDE.

- On November 19, 1990, a piping valve was speculated to have failed, overfilling one of two (since-removed) 30,000-gallon #2 heating oil USTs near MOD 2A. Case #91-1059PG was assigned to this release. Heating oil was observed to have traveled approximately 278 feet along a ditch to a security fence and approximately 100 feet beyond the fence. The estimated spill totaled between 2,500 and 3,000 gallons. Following a cleanup effort, the MDE closed the case on May 31, 1991 and stated that the property had returned to compliance in a June 27, 1991 Notice.
- On August 15, 2001, motor oil was reported released from the crank case of an emergency generator in MOD 2 due to piston failure and over-pressurization. Approximately 30 to 40 gallons of motor oil were estimated to have been lost, affecting an area of approximately 20 feet by 100

[9] A Recognized Environmental Condition (REC) is the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to any release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment.

[10] Controlled RECs are RECs resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), but with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls.

[11] A Historic Recognized Environmental Condition is a REC that has occurred in connection with the property, but has been addressed to the satisfaction of the applicable regulatory authority and meets unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls.

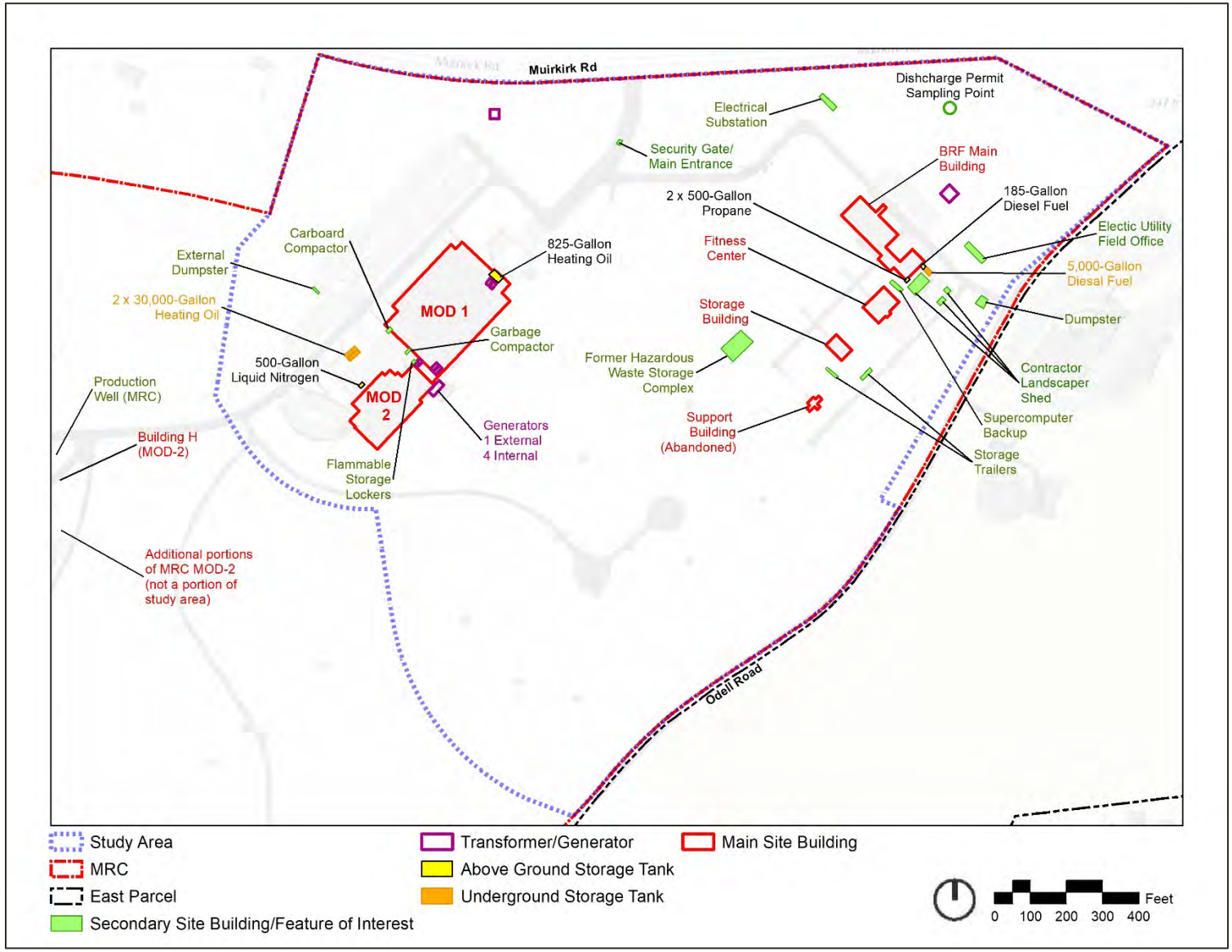


Figure 4-55. Potential Areas of Environmental Concern

- feet. MDE Case #02-0853PG was assigned to this release. Clean Venture excavated and properly disposed of approximately 15 tons of contaminated soil. Other administrative items were subsequently addressed. The case was closed by MDE on October 2, 2002 with no restrictions.
- According to an Environmental Data Resources (EDR) Radius Map Report listing, one MDE Oil Control Program (OCP) case was opened on January 4, 2002 for FDA due to dumping. The specific substance, amount, or location is not mentioned in the listing. A subsequent cleanup was conducted, and the case was closed by MDE on October 2, 2002.
- A release occurred and was reported on July 11, 2007 from one of the two extant 30,000-gallon heating oil USTs near MOD 2. The release was discovered when fuel surrounding a remote fill port was observed. The release may have occurred due to thermal expansion of fuel during the summer, causing overflow. MDE Case #08-0028PG2 was assigned to the release. Approximately 10 cubic yards of contaminated soil and pea gravel fill around the fill port was excavated and properly disposed of. Post-excavation soil samples were below laboratory detection limits for total petroleum hydrocarbons. Product was not detected during several tests of a temporary monitoring/recovery well installed in the excavation. A Phase II ESA was conducted by Geo-Technology Associates, Inc., in which additional soil and groundwater samples were collected. The Phase II ESA found no evidence of impact was detected, other than a fine sheen in one newly installed recovery well during the first gauging event. The case was closed by MDE on June 29, 2011, with residual contamination allowed to remain onsite because it appeared to pose no threat to human health or the environment.

4.22.3 Will the MRC Master Plan Alternatives Impact Environmental Contamination?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The No-Action Alternative would not result in additional staff being located at the MRC. Beneficial impacts from the MRC substation replacement project, replacement of AHUs, and replacement of generators at the MRC would remove outdated systems, which could have the potential for future releases of hazardous materials.

There are no RECs or HRECs under the No-Action Alternative; therefore, any ongoing or proposed projects are not expected to release any hazardous materials. No efforts to further evaluate RECs, BERs, or to conduct site remedial efforts would be necessary.

Alternatives A, B, and C (Action Alternatives)

The Phase I ESA did not identify any RECs or HRECs currently at the MRC. Implementation of the Master Plan may generate hazardous materials as a result of the types of scientific studies that are conducted at the MRC. All outgoing waste, including hazardous and biological wastes, would be collected in accordance with FDA's waste diversion requirements and would be disposed of in accordance with state and Federal laws. Therefore, the Action Alternatives would result in a minor, long-term, adverse impact from a slight, but detectable, increase of environmental contaminants sent to USEPA-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.

Based on the age of construction of the BRF, there is a potential that the BRF may contain asbestos containing materials (ACM) or lead-based paint (LBP). The BRF did not show visible signs of flaking or ACMs during site reconnaissance for the Phase I ESA. The ACM was removed from the building in 1994 (personal communication, 2021a). It is recommended that LBP and ACM surveys be conducted prior to the demolition of the BRF. Potential for LBP and/or ACM within these buildings would be identified, removed prior to building demolition, and disposed of at an EPA-approved landfill.

The removal of any hazardous materials encountered during demolition and construction would improve environmental conditions and reduce the potential for human contact with contaminants. Therefore, the Action Alternatives would result in beneficial impacts. To ensure safety of construction contractors and employees and support staff, GSA and FDA would develop a plan for the proper handling and disposal of any unanticipated hazardous materials encountered.

4.22.4 What Efforts Would be Made to Protect Employees and Contruction Contractors from Environmental Contamination?

To ensure safety of construction contractors, employees, support staff, visitors, and the environment, FDA would develop a plan for the proper handling and disposal of any unanticipated hazardous materials encountered including, but not limited to:

- The BRF main building may contain LBP.
- When spent materials such as batteries, aerosol cans, and fluorescent lights were observed throughout the MOD 1, MOD 2, and BRF. When spent, these materials are considered universal waste and should be disposed of properly.

4.23 WASTE MANAGEMENT

4.23.1 Assessment Methodology

Impacts to waste management were analyzed based on the characteristics of current waste management with the requirements for demolition, construction, and operation of the alternatives.

The impact thresholds for waste management are provided in **Table 4-58**.

Table 4-58. Impact Intensity Thresholds for 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

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 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

4.23.2 How is Waste Managed at the MRC?

Waste generated by the MRC includes non-hazardous solid waste, hazardous chemical waste, special medical waste, low-level radioactive and mixed waste, recyclable materials, and animal waste. Chemical waste is packaged and shipped off site by a qualified contractor using FDA's USEPA generator ID number. Medical waste is handled following procedures outlined by RCRA, Maryland state regulations, and Occupational Safety and Health Administration (OSHA) regulations. All packaging and transportation is performed by the contractor in accordance with DOT requirements. All hazardous waste material, such as batteries and light bulbs, is accumulated near the loading docks of the MOD 1 and MOD 2 buildings. These hazardous materials are hauled offsite by an approved local hazardous waste hauler. Non-hazardous solid waste is kept onsite in dumpsters before being transported by a waste contractor to a sanitary landfill (Stantec, 2021a). In 2021, the MRC disposed of 3.03 tons of municipal solid waste (FDA, 2021).

There is a trash compactor and a separate cardboard compactor at the MOD 1 loading dock. These get emptied twice a week and once every two months, respectively (personal communication, 2021d). The MRC disposed of approximately 0.9 tons of cardboard in 2020 (FDA, 2021). All recyclable materials are separated and placed in a yellow 20-yard container with compartments for plastic bottles, cans, and paper (personal communication, 2021a). Based on the *LEED® Recycling Material Identification Report,* one-half ton of material is hauled off site every four days (FDA, 2020). Additional dumpsters for small trash are in the parking lot north of MOD 2 and by the secondary (Odell Road) exit next to the BRF. Disposal of cardboard and waste generated at the MRC gets disposed of at the Olive Street Processing Center, LLC, RecycleOne, or at a sanitary landfill.

Small animal feces from labs and cages are tested for radioactivity and transported by licensed haulers for landfilling or a radioactive treatment/storage facility, as applicable. Large animal feces from pasture areas are mixed with straw/hay and collected by USDA and transported for use at other facilities.

All liquid waste goes to one of two pre-treatment rooms in MOD 1 or MOD 2 buildings before discharging to the municipal sewer. The basements in the MOD 1 and MOD 2 buildings have sumps to collect groundwater and wastewater from the laboratories. Once the water has been treated, depending on the pH, the water is discharged to the municipal system.

4.23.3 How Would Implementation Of The Master Plan Affect Waste Management?

No-Action Alternative

Under the No-Action Alternative, no new facilities would be constructed, and the number of employees and support staff at the MRC would remain at 300. Additional employees would need to be housed in other Government-owned or leased space in the Washington, DC metropolitan area. The number of employees

and support staff at the MRC would not increase under the No-Action Alternative. The MRC substation replacement project, the replacement of AHUs, and the replacement of generators would increase the volume of waste requiring disposal from the MRC. The waste generated would be slight, but detectable. Any LBP, ACM, or other contaminated wastes would be disposed of at licensed facilities. Disposal of waste generated would not overburden the capacity of the waste haulers or the capacity of landfills. Therefore, there would be a minor, short-term, adverse impact to waste management.

Over the long-term, wastes and recyclable materials would continue to be generated at the current rate. All waste types would continue to be handled by qualified contractors. 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 streams at RecycleOne, Olive Street Processing, LLC, or a sanitary landfill, there would be a minor, long-term, adverse impact to waste management.

Alternative A, B, and C (Action Alternatives)

Under all Action Alternatives, solid waste would be generated from demolition, excavation, and construction. Construction waste could include building components and structures, concrete, asphalt, wood, metals, roofing, flooring, and piping. All new buildings on the campus would be, at a minimum, LEED® Gold certified as required by GSA. In accordance with these requirements, a minimum of 50 percent of demolition and construction waste would be diverted from landfills during implementation of the Master Plan (GSA, 2020). Building materials, products, and supplies would be reused or recycled to the maximum extent practicable. All remaining construction waste would be disposed at a nearby landfill, which would result in temporary increases in construction waste. Therefore, there would be a minor, short-term, adverse impact to solid waste management under the Action Alternatives.

The increase in population at the MRC would generate additional solid waste, food waste, and recyclable materials. This would increase the amount of waste handled at waste-receiving facilities but is not anticipated to affect waste haulers or the capacity of landfills. General waste would be transported to the Brown Station Road Sanitary Landfill. Recyclable waste would be disposed of at RecycleOne and Olive Street Processing, LLC, or another facility that is authorized to receive recyclable waste. Due to an increase in waste generated at the MRC, the Action Alternatives would result in minor, long-term, adverse impacts.

4.23.4 What Measures Would Be Implemented To Reduce Waste Generated On The Site?

The Master Plan would be implemented in accordance with CEQ's *Guiding Principles for Sustainable Federal Buildings* (CEQ, 2020). All new buildings on the campus would also be at minimum LEED® Gold certified as required by GSA. In accordance with these requirements, a minimum of 50 percent of demolition and construction waste would be diverted from landfills during implementation of the Master Plan (GSA, 2020). Building materials, products, and supplies would be reused or recycled to the maximum extent practicable. Following construction, waste collection, recycling, and composting programs implemented by FDA would continue. At least 50 percent of non-hazardous waste would be diverted from landfills through reuse, recycling, and composting. To promote waste minimization and pollution prevention, the MRC would follow GSA's Green Purchasing Plan, which requires the purchase of products/materials that are energy and water efficient, renewable energy technology, bio-based, non-ozone depleting, contain recycled content, and are non-toxic or less toxic alternatives (GSA, 2011).

4.24 WHAT ARE THE DEVELOPMENT TRENDS AND WHY ARE THEY DISCUSSED?

CEQ regulations require Federal agencies to assess the effects "that are later in time …. from the proposed alternatives" (40 CFR 1508.1g). In other words, would the proposed Federal project add to or interact with the environmental effects of other present or future projects. The CEQ regulations also require that "The environmental impact statement shall succinctly describe the …. reasonably foreseeable environmental trends and planned actions in the area(s)" (40 CFR 1502.15). This section of the EIS provides a description of other reasonably foreseeable present or future projects and development trends in the area and discusses whether or not the MRC Master Plan would add to or interact with the environmental effects of those reasonably foreseeable present or future projects and development trends.

4.24.1 What Past Actions Have Occurred in the Vicinity of the MRC?

The area in the vicinity of the MRC was first settled by the Snowden family who established the Patuxent Iron Works in the early 1800s. Nearby, members of the Ellicott family established the Muirkirk Manufacturing Company, later the Muirkirk Iron Furnace, in 1846. The community of Rossville was established north of the area that is now the MRC by African-Americans in the late nineteenth century. As the communities of Laurel and Beltsville grew, the area was developed with commercial, industrial, and residential areas.

The MRC was developed from 1964 through the late 1990s, when FDA acquired 197 acres on the northern boundary of the BARC through a transfer of land from the U.S. Department of Agriculture. Upon completion of the 1981 Beltsville Master Plan, the Modular 1 (MOD-1)/Modular 2 (MOD-2) Complex was constructed in phases from 1983 to 1996 on the western side of the MRC. Around 1981, the WSSC built a water storage tank on a 5-acre area of the East Parcel along Odell Road (the South Laurel Water Pumping Station), leased from FDA. Around 1993, the Maryland Army National Guard constructed a two-building armory facility on another leased area of the East Parcel east of Odell Road and north of the South Laurel Water Pumping Station. The Animal Research Facility was constructed on the southwest portion of the MRC in the late 1990s. Improvements continue to be made on the MRC to support FDA employees and support staff.

4.24.2 What Present and Future Projects Would Add to Environmental Trends?

Present and future improvements are shown in **Table 4-59**.

Table 4-59. Present and Future Projects at the MRC

MRC Improvement Projects	Status
Phase 1 POR and Infrastructure Study/Survey Mechanical, Engineering, Plumbing: This project will assess the future laboratory needs, special requirements, and timeframes for the MRC. Phase 2 Lean Lab Assessment: This assessment will evaluate the effectiveness and efficiency of the existing laboratories; identify improved utilization (right-sizing); and determine whether new spaces are required beyond the existing building footprint.	Ongoing

MRC Improvement Projects	Status
MRC substation replacement project – This project will consist of replacing the 15 kilovolts (Kv) outdoor substation for the MRC. The two-primary medium-voltage conductors will be replaced from the substation to MOD 1. This project is currently at the 65 percent design phase.	Ongoing
Six original AHUs from 1984 will be replaced on the roof of MOD 1.	Ongoing
Backflow Preventer Replacement – The MRC main backflow preventer off Muirkirk Road just outside the perimeter fence will be replaced. This is a single backflow preventer that was installed in 1997 and should have been a parallel assembly to provide redundancy.	Future
Replacement of exterior windows of MOD 1.	Future
Replacement of Generators at MOD 1 – This project is to replace the generators in the east and west generator rooms of MOD 1. They will all be increased in size from current capacity. The west side generators will be replaced in the same location and increased in size from 650 kilowatt (KW) to 1,000 KW. The two east side generators will be relocated to the side of the building near the transformers and will be increased in size from 370 KW to 500 KW. The oil fuel tank for the two east side generators will be increased in capacity from the existing 1,000- gallon above ground storage tank (AST) to a 5,000-gallon AST. This project is currently at the 65 percent design phase.	Future
Building Automation System (BAS) upgrade for all the outbuildings at MOD-2 – This project will remove the old outdated METASYS system and replace it with the Honeywell Tridium system.	Future
Replacement of Cooling Towers – GSA's 5-year project plan consists of replacing the cooling towers and structural steel supports at MOD 2.	Future
Improve grading/drainage at North Loop Road from Building 1 to C-3.	Future

New development is either occurring or planned in the vicinity of the MRC. Development that is planned or under construction as of June 2021 in the area surrounding the MRC is shown in **Table 4-60** and **Figure 4-56**.

Table 4-60. Planned/Ongoing Development Near the MRC

Development Project	Status	Land Use	Description
FDA Federal Research Center (FRC) Master Plan	Planned/ Approved	Institutional	Master Plan that provides a framework for development at the Federal Research Center for up to 18,000 employees and up to an additional 1.6 million gsf of office space and 377,382 gsf of special/shared use space. The FRC is approximately 10.9 driving miles west from the MRC (GSA, 2018).

Development Project	Status	Land Use	Description
Konterra Town Center	Planned	Mixed-Use	Mixed-use development on 2,200 acres of retail, research, and technology campuses including 1.4 million sf of building space, more than 1,000 residential units, and 348 acres reserved for a governmental, educational, or corporate facility. This site is 1.9 driving miles northwest of the MRC (KLNB, 2021).
The Brick Yard	Under Construction	Mixed-Use	125-acre development bordering U.S. 1 between Muirkirk Road and Contee Road. The Urban Industrial space will include 700,000 sf of multi-purpose industrial buildings on 70 acres. 50 acres of the site is under construction for residential uses as Brick Yard Station and the Mark at Brick Yard, which includes 397 apartments. This site is 2.3 driving miles northwest of the MRC (JacksonShaw, 2021).
Bureau of Engraving & Printing (BEP)	Planned/Under Consideration	Institutional	Construction of an approximate one million sf Currency Production Facility on 100 acres at the BARC. This site is 1.6 driving miles south of the MRC (USACE, 2020).
BARC Demolition	Planned	Institutional	Demolition of 22 buildings and associated infrastructure at BARC. This site is 4.3 driving miles south of the MRC (USDA-ARS, 2020).
High-Speed Superconducting Magnetic Levitation (MAGLEV) System	Planned/Under Consideration	Transportation	Highspeed train line between Baltimore, MD and Washington, DC with a stop at the Baltimore-Washington Thurgood Marshall Airport. This would be located 1.1 driving miles east of the MRC at its closest point to the study area (MDOT MTA, 2021).
Maryland Army National Guard Recruiting Center	Under Construction	Institutional	The recruiting center located adjacent to the MRC east of Odell Road is currently constructing an additional parking lot. The site is 0.5 driving miles east of the MRC.

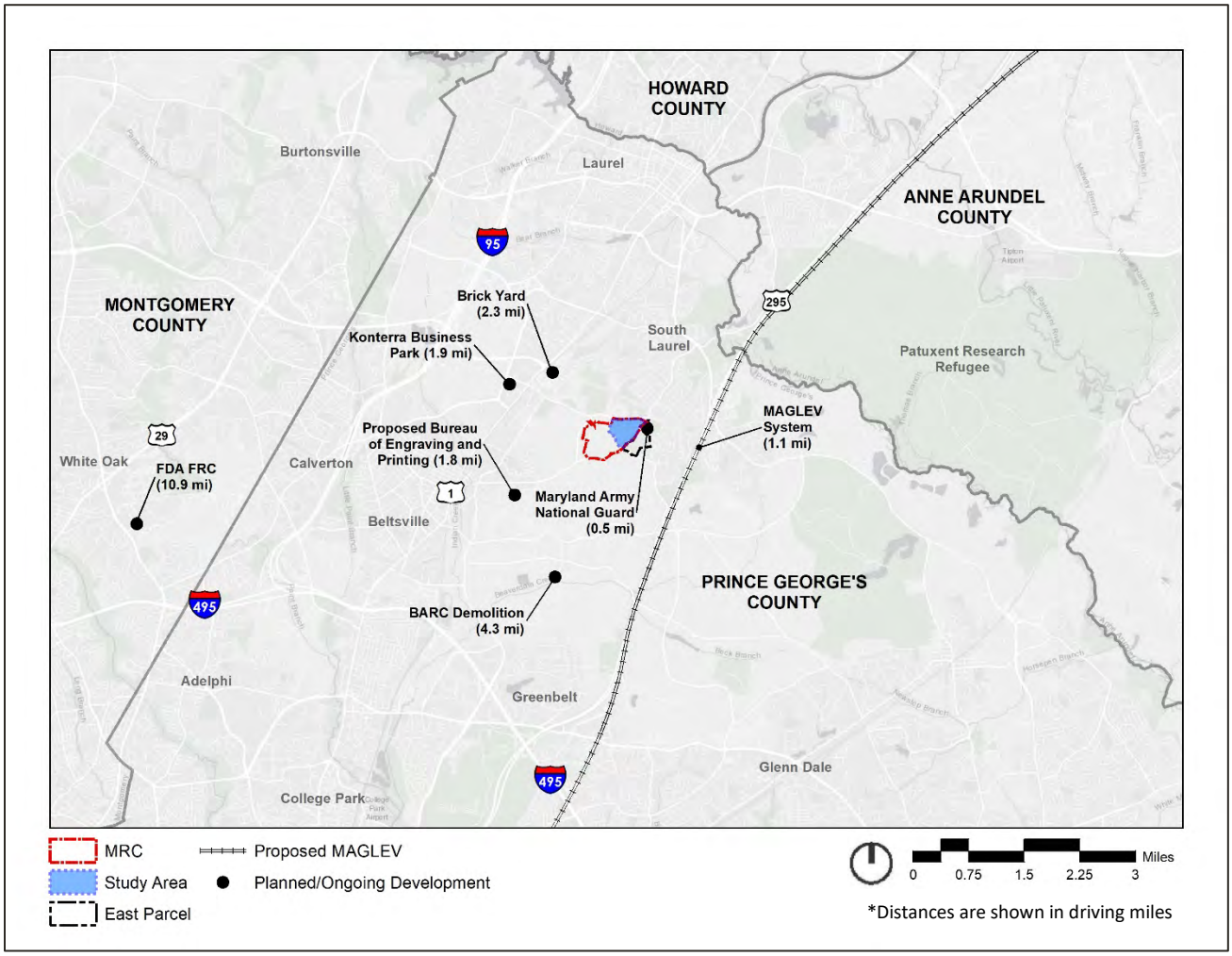


Figure 4-56. Planned/Ongoing Development in the Vicinity of the MRC

4.24.3 How are Development Trends Impacting the Environment?

Topography and Soils

Past development and construction activities on and in the vicinity of the MRC may have required grading, ground disturbance, and excavation. These activities would have resulted in changes to topography and soils as land was converted from agricultural uses to commercial, industrial, residential, and transportation uses. Of the ongoing or future MRC improvement projects, only improving grading/drainage at North Loop Road may impact topography or soils. Planned development in the vicinity of the MRC, as described in Section 4.3.3, would require ground disturbance and subsurface activities. Construction, site grading, and excavation for National Guard parking lot expansion, FDA FRC, Konterra Town Center, the Brick Yard, the Bureau of Engraving and Printing, the MAGLEV, and other proposed projects at the MRC will each result in impacts to soils and topography (FDA, 2021; GSA, 2018; KLNB, 2021; JacksonShaw, 2021; USACE, 2021; USDA-ARS, 2020; MDOT MTA, 2021; GSA, 2021). 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 Maryland and Prince George's County laws and regulations. The Action Alternatives for the

MRC Master Plan would add to the impacts to topography and soils from other development planned and underway in the region.

Groundwater Quality and Hydrology

Past development and construction activities converted land from agricultural uses to commercial, industrial, residential, and transportation use leading to an increase in impervious surface within the Anacostia Watershed where the MRC is located. None of the ongoing or future MRC improvement projects would impact groundwater or hydrology. Planned projects in the vicinity of the MRC would also increase impervious surfaces which may in turn impact groundwater recharge. The planned National Guard parking lot expansion may increase impervious surfaces and have some impact on groundwater recharge. The BEP project would increase impervious surface cover 29.4 acres (USACE, 2020), while the BARC Demolition project may result in a small decrease in impervious surfaces. Development of the FDA and Konterra Town Center projects would convert undeveloped land to developed and, thus, increase impervious surfaces. The Brick Yard project is a redevelopment of previously developed land and would not be expected to have a substantial impact on groundwater recharge. The MAGLEV has the potential to impact groundwater through increases in impervious surfaces for rail lines and maintenance yards, as well as from tunneling which could come in direct contact with groundwater aquifers (MDOT MTA, 2021). These projects may be designed with stormwater facilities that use groundwater recharge to diminish stormwater runoff.

As described in Section 4.4.3, the Action Alternatives for the MRC Master Plan would have a slight increase impervious surfaces which would not have a discernable effect on groundwater recharge. Construction of underground portions of the buildings could intercept the groundwater table but would not affect naturally occurring groundwater levels. The Action Alternatives for the MRC Master Plan would add a small amount to the impacts to topography and soils from other development planned and underway in the region.

Surface Water and Wetlands

Past construction and development activities in the vicinity of the MRC have resulted in direct and indirect adverse impacts to the surface water quality, including wetlands Upper Beaverdam Creek Watershed, a subwatershed of the Anacostia River Watershed. Suburban development has resulted in poor surface water quality from sediment deposition in runoff from construction zones and impervious surface, and Beaverdam Creek is considered an impaired creek. Development has resulted in filling of wetlands and increases in stormwater runoff, which contributes to poor surface and wetlands water quality (EPA, 2019).

None of the ongoing or future MRC improvement projects would impact surface water or wetlands. Planned development of the FDA FRC would result in 270 feet of permanent impacts to streams, and additional temporary impacts and permanent modifications to stream valley buffers (GSA, 2018). Construction of the BEP would impact approximately 226 linear feet of stream (USACE, 2021). The MAGLEV would have permanently impact 20 to 76 acres of floodplains, 22 to 51 acres of wetlands, and 9,964 to 12,896 linear feet of streams (MDOT MTA, 2021). It is not known how much of these impacts would be in the vicinity of the MRC. It is assumed that all planned developments would adhere to Federal, State, and County regulations on wetlands, water quality, and stormwater management. Adherence to these regulations would minimize or mitigate impacts to surface waters and wetlands.

As described in Section 4.5.3, the Action Alternatives would also increase impervious surfaces and impact water resources. Vegetation clearing, site grading, and other construction activities would impact water resources including impacts to wetlands, wetland buffers, and streams. The Action Alternatives for the MRC

Master Plan would add to the impacts to surface waters and wetlands from other development planned and underway in the region.

Stormwater

Past development and construction activities have increased impervious surface within the Upper Beaverdam Creek and Anacostia watersheds as land was converted from agricultural uses to commercial, industrial, residential, and transportation uses. Increases in impervious surface results in increases in stormwater runoff.

Of the ongoing or future MRC improvement projects, only improving grading/drainage at North Loop Road may impact stormwater. Development of the FDA FRC, BEP, Konterra Town Center, the Brick Yard, and MAGLEV would increase the amount of impervious surface in the area creating more stormwater runoff (GSA, 2018; KLNB, 2021; JacksonShaw, 2021; USACE, 2021; USDA-ARS, 2020; MDOT MTA, 2021; GSA, 2021). These projects would all be subject to Maryland, Prince George's County, or Montgomery County stormwater management regulations. Therefore it is assumed that stormwater quality and quantity controls would be implemented during construction to manage the increase in stormwater flows from the individual sites. The Action Alternatives for the MRC Master Plan would also result in increases to impervious surfaces as described in Section 4.6.3, and the Action Alternatives would add to the impacts to stormwater from other development planned and underway in the region.

Vegetation

Past development and construction activities have resulted in the removal of native vegetation as land in the vicinity of the MRC was converted to agricultural uses and then to commercial, industrial, residential, and transportation uses. None of the ongoing or future MRC improvement projects would impact vegetation. Planned projects in the vicinity of the MRC would also impact vegetation. Construction of the National Guard parking lot expansion may require the removal of vegetation. Construction of the FDA FRC would require the removal of 7.7 acres of vegetation including 3.2 acres of maintained lawn, and 4.5 acres of forest (GSA, 2018). Construction of the BEP would impact 83.6 acres of vegetation including forests, agricultural land, open meadows, and emergent wetlands (USACE, 2021). The BARC Demolition project would require removal of vegetation from building perimeters, from inside some abandon buildings, and from areas on each project site to facilitate infrastructure removal and support regrading of the site (USDA-ARS, 2020). The Konterra Town Center development would add commercial and residential structures, roads, and associated infrastructure in an area that is currently dominated by old fields and small forested areas. The Brick Yard development is a redevelopment of a previous industrial area. These projects are subject to the Prince George's County Woodland Conservation and Tree Preservation Ordinance and require Natural Resource Inventories (NRI). Clearing, grading, and land development for the proposed MAGLEV project would have permanent impacts to forests and ecologically sensitive areas on NPS, BARC, the Patuxent Research Refuge, and Fort George G. Meade (USACE, 2021).

As described in Section 4.7.3, the MRC Action Alternatives would result in permanent removal of forest and maintained lawns. The Action Alternatives for the MRC Master Plan would add to the impacts to vegetation from other development planned and underway in the region.

Wildlife

Past development and construction activities in the vicinity of the MRC have removed habitat and displaced native wildlife species as land was converted to agricultural uses and then to commercial, industrial,

residential, and transportation uses. None of the ongoing or future MRC improvement projects would impact wildlife. The FDA FRC, the BEP, the Konterra Town Center development, and the MAGLEV would all result in the removal of vegetation and wildlife habitat including forest interior dwelling birds and migratory birds, as well as habitat for sensitive and protected species such as the long-eared bat (GSA, 2018; KLNB, 2021; JacksonShaw, 2021; USACE, 2021; USDA-ARS, 2020; MDOT MTA, 2021). Construction activities, vehicles, and equipment associated with the planned development projects would increase noise levels, which may disturb wildlife and temporarily push the species to other areas. Like the MRC, the BEP, Konterra Town Center, and the MAGLEV are subject to the ESA and the Migratory Bird Protection Act. Each of these projects are located in areas with large tracts of wildlife habitat that would minimize the impacts to displaced terrestrial wildlife. Impacts to streams and wetlands from these projects have the potential to degrade habitat for aquatic species.

The Action Alternatives for the MRC Master Plan, as described in Section 4.8.3, may also result in a loss of habitat for terrestrial wildlife due to tree removal for construction of new buildings, parking garages, bike paths, walking paths, and utilities. As with other planned projects, construction activities under any of the Action Alternatives would increase noise levels, which may disturb wildlife and temporarily push the species to other areas on and off of the MRC. The Action Alternatives for the MRC Master Plan would add to the impacts to wildlife from other development planned and underway in the region.

Coastal Zone

Past development has adversely impacted the nation's coastal zones. In response to these adverse impacts, the Coastal Zone Management Act was enacted to "preserve, protect, develop, and where possible, restore or enhance the resources of the nation's coastal zone" (MDNR, 2021b). Like the proposed MRC development, other federal projects in the area are subject to the CZMA. Like the MRC Master Plan, the BEP projects is consistent with the CZMA (USACE, 2021). Consistency determinations are not available for the BARC Demolition and MAGLEV projects. The FDA FRC project is not in the Coastal Zone and not subject to the CZMA. As described in Section 4.9.4, the MRC Master Plan would be undertaken in a manner consistent with the policies of the Maryland Coastal Zone Management Program; therefore, no impacts to the coastal zone would occur. Therefore, the Action Alternatives for the MRC Master Plan would not add to impacts to the Coastal Zone.

Cultural Resources

Past development and construction activities have resulted in impacts to cultural resources as development resulted in the demolition of historic properties and changes to historic landscapes. Construction of proposed projects in the area may impact cultural resources. None of the ongoing or future MRC improvement projects would impact cultural resources. The National Guard parking lot expansion, the FDA FRC, the BEP, Konterra Town Center, and the MAGLEV have the potential to impact unanticipated archaeological resources. The Brick Yard is under construction on a former Washington Brick Company manufacturing company and mine (JacksonShaw, 2021). The BEP construction "would diminish the integrity of the BARC Historic District's character-defining viewsheds and landscape design, setting, and feeling" (USACE, 2020). The MAGLEV may permanently change the views of historic properties along the rail line (MDOT MTA, 2021).

The Determination of Eligibility for the MRC Master Plan established that there are no historic structures or archaeological resources in the MRC APE (Quinn Evans, 2021). No historic structures or archaeological resources would be affected by Action Alternatives, and they would not add to impacts of other developments on cultural resources.

Viewsheds

Viewsheds in the vicinity of the MRC have continually changed as land was converted to agricultural uses and then to commercial, industrial, residential, and transportation uses. None of the ongoing or future MRC improvement projects would impact viewsheds. Planned developments in the area continue to change viewsheds. The FDA FRC development will add high-rise buildings which may be visible from outside the site (GSA, 2018). The BEP would change viewsheds and obstruct vistas and viewscapes from outside the project area (USACE, 2020). Konterra Town Center development would introduce commercial and residential structures, roads, and associated infrastructure in an area that is currently dominated by old fields and small forested areas. The Brick Yard development is a redevelopment of a previous industrial area. According to the MAGLEV EIS, rail viaduct and ancillary facilities "would be close and highly visible from … the [Baltimore Washington] parkway in many areas. In these areas, MAGLEV System elements would intrude on the naturalized scenery that enhances the recreational use of the parkway" (MDOT MTA, 2021).

As described in Section 4.11.3, development on the MRC under the Action Alternatives, would, for the most part, be hidden from surrounding communities by existing vegetation and topography. Under Alternatives A and B, the building proposed north of MOD 1 would be visible from the MRC entrance on Muirkirk Road. Under Alternative C, the new buildings would be barely visible from the main entrance at Muirkirk Road. The Action Alternatives for the MRC Master Plan would add to the changes in viewsheds from other development planned and underway in the region.

Land Use Planning and Zoning

Past, present, and future development in the vicinity of the MRC has been planned for and approved in accordance with Federal land use plans including the Federal Elements of the Comprehensive Plan for the National Capital, along with the Prince George's County Subregion 1 Master Plan, Prince George's County 2035 Approved General Plan, and other plans and regulations as outlined in Section 4.12.2. Land use planning and zoning changes for FDA FRC, Konterra Town Center, the Brick Yard, the Bureau of Engraving and Printing, and the MAGLEV will each result in changes to existing land uses (GSA, 2018; KLNB, 2021; JacksonShaw, 2021; USACE, 2021; USDA-ARS, 2020; MDOT MTA, 2021). The BEP would convert land previously set aside for agricultural preservation (USACE, 2021). The Brick Yard and Konterra Town Center developments would convert previously developed and disturbed lands to mixed use developments in accordance with the Prince George's County Subregion 1 Approved Master Plan (M-NCPPC, 2010b). The MAGLEV project would convert land on National Park Service (NPS) property, the BARC, the Patuxent Research Refuge, and Fort George G. Meade from undeveloped land to mass transit use (MDOT MTA, 2021). The BARC demolition project would not result in land use impacts (USDA-ARS, 2020).

As described in Section 4.12.5, the Action Alternatives for the MRC Master Plan would be consistent with land use plans and zoning but would result in new development and changes in land use. The Action Alternatives for the MRC Master Plan would add to the impacts to land use planning and zoning from other development planned and underway in the region.

Community Facilities and Services

Past development and construction activities have resulted in increased use and demand for community facilities and services. None of the ongoing or future MRC improvement projects would impact community facilities and services. Like the MRC Master Plan, the FDA FRC and the BEP would increase employment in the area that could result in additional people utilizing community facilities. Konterra Town Center and the Brick Yard are multi-use developments that will add to the growth in population in Prince George's County

resulting in additional use of schools, parks and recreation areas, childcare centers, hospitals, and religious institutions. The Konterra Town Center project includes the construction of two new fire stations and parks, and the Brick Yard includes the construction of new recreational facilities (PGCPB, 2008 and M-NCPPC, 2010b). The USDA BARC demolition project and the MAGLEV are not expected to have an impact on community facilities.

As described in Section 4.13.3, under the MRC Master Plan Action Alternatives, some employees may relocate to the vicinity of the MRC from outside of the region, and these employees may utilize community facilities, including schools, libraries, parks, medical facilities, childcare centers, and religious facilities. The Action Alternatives for the MRC Master Plan would add to the impacts to community facilities from other development planned and underway in the region. The libraries, parks, medical facilities, and religious facilities may see a slight increase in use, but it would not likely exceed the capacity of these facilities, as there are numerous within the area and would be sporadically accessed. Prince George's County's planned school development may help to meet the increasing need in the region and lessen the impact trends on these resources.

Safety and Security

Past development and construction activities have led to increased demand for police, fire, and EMS services. None of the ongoing or future MRC improvement projects would impact safety and security. The FDA FRC and BEP projects would add additional buildings and employees that may require support from local police, fire, and EMS personnel. Both the FDA FRC and BEP would have onsite security that would respond to most incidents onsite (GSA, 2018; USACE, 2021). The Konterra Town Center and Brick Yard developments would require support from County police, fire, and EMS. Two fire stations are proposed as part of the Konterra Town Center development (M-NCPPC, 2010b). The USDA BARC demolition project and the MAGLEV are not expected to have an impact on safety and security.

As described in Section 4.14.5, under all MRC Master Plan Action Alternatives, there would be an increase in the commuter population to the area surrounding the MRC, which could result in a potential increase in the number of calls for police response. Under all MRC Master Plan Action Alternatives, newly constructed buildings would be designed to achieve Interagency Security Committee (ISC) Level III requirements. The Action Alternatives for the MRC Master Plan would add to the impacts to safety and security from other development planned and underway in the region.

Economy and Employment

Past development and construction activities have resulted in beneficial impacts to the economy and employment through expenditures on construction and through long-term employment at commercial enterprises. The ongoing and planned improvements on the MRC may have slight beneficial impacts to construction employment. Construction employment and construction spending for all planned projects in the region would temporarily add to the employment and economic benefits of the MRC Master Plan. The FDA FRC, the BEP, Konterra Town Center, and the Brick Yard will each provide opportunities for increased permanent employment in the area (GSA, 2018; USACE, 2021). The MAGLEV will increase employment, though it is uncertain if employees will be from the project area (MDOT MTA, 2021). Increases in long-term employment will generate economic benefits including secondary spending and increased local, State, and Federal tax revenues.

As described in Section 4.15.3 and 4.15.4, under the MRC Master Plan Action Alternatives, construction would increase economic activity in the region through the purchase of materials and equipment and

construction personnel patronizing local businesses. Once construction is complete, existing and new employees and support staff would likely patronize local businesses in the vicinity of the MRC. The Action Alternatives for the MRC Master Plan would add to the beneficial regional employment and economic impacts from other development planned and underway in the region.

Environmental Justice

While the project area has a high percentage of environmental justice populations, most of the proposed development in the area will have either no impact or beneficial impacts to these populations. None of the ongoing or future MRC improvement projects would impact environmental justice communities. The FDA FRC, the BEP, Konterra Town Center, and the Brick Yard will each provide opportunities for temporary and permanent employment in the area (GSA, 2018; USACE, 2021; KLNB, 2021; JacksonShaw, 2021). The MAGLEV will increase employment, though it is uncertain if employees will be from the project area (MDOT MTA, 2021). The Konterra Town Center and Brick Yard developments will increase housing availability to citizens in the area (KLNB, 2021; JacksonShaw, 2021). Each of these projects may increase traffic levels which could decrease the quality of life for environmental justice populations in the area. The MAGLEV project will have noise impacts along the rail line, and 99 percent of the impacted noise receptors are located with environmental justice population areas (MDOT MTA, 2021).

As described in Section 4.16.3, the impacts of the MRC Master Plan Action Alternatives would not disproportionately affect environmental Justice populations located near the MRC and would not contribute to environmental justice impacts associated with other planned projects.

Air Quality

Past development within the vicinity of the MRC has produced traffic and emission sources which have affected air quality. As discussed in Section 4.17.2, the Washington DC-MD-VA Region, which includes the MRC, is designated as a marginal nonattainment area for O_3 (area has a design value of 0.071 ppm up to, but not including 0.081 ppm) under the 2015 8-hour standard (MWCOG, 2020). The region is designated as in attainment of the NAAQS for all other criteria pollutants. In 2019, the region was redesignated by the USEPA regarding the 2008 8-hr ozone standard from marginal nonattainment to attainment maintenance (EPA, 2021). While the area still has ozone issues, precursor emissions such as volatile organic compounds, nitrogen oxides and particulate matter are reducing, therefore ozone concentrations are slowly declining.

The planned replacement of generators at MOD 1 with larger generators could result in greater air quality emissions. The increase in emissions may be offset by improved efficiency of newer equipment. Construction activities, including the use of heavy machinery, for the National Guard parking lot expansion, the FDA FRC, the Konterra Town Center, the Brick Yard, the Bureau of Engraving and Printing, the BARC demolition project, and the MAGLEV would result in temporary increases in air quality emissions. Operation of these facilities would have lower impacts to air quality emissions than existing facilities because it is assumed that they would be built with modern, energy efficient systems. The FDA FRC, the Konterra Town Center, the Brick Yard, and the Bureau of Engraving and Printing, would increase traffic levels on area roadways which in turn would increase air emissions (GSA, 2018; KLNB, 2021; JacksonShaw, 2021; USACE, 2021; USDA-ARS, 2020; MDOT MTA, 2021). As described in Section 4.17.4 and 4.17.5, the Action Alternatives for the MRC Master Plan would impact air quality. Construction activities at the MRC under the Action Alternatives would result in fugitive dust and emissions from construction equipment, but these impacts would be minimized through dust suppression and use of modern, well-maintained construction equipment. New buildings on the MRC would be heated with natural gas, and modern, efficient HVAC equipment would have negligible impacts to air quality. Traffic generated by the MRC Master Plan would not

result in any exceedance of the 1-hour or 8-hour NAAQS for CO. The Action Alternatives for the MRC Master Plan would add a small amount to the air quality impacts from other development planned and underway in the region.

Greenhouse Gas and Climate Change

As stated in Section 4.18.2, transportation, electricity production, and industry are primarily responsible for the most manmade GHG emissions in the U.S., while new commercial and residential developments also contribute to GHG emissions (EPA, 2019). The planned replacement of generators at MOD 1 with larger generators could result in greater GHG emissions. The increase in emissions may be offset by improved efficiency of newer equipment. Planned projects in the vicinity of the MRC are anticipated to have negligible to minor impacts to the levels of greenhouse gas emissions. The BEP EIS states that the GHG emissions from project "would not have a perceptible impact on a regional level" and the FDA FRC EIS states that implementation of the project would result in a slight increase in stationary and mobile source GHG emissions (USACE, 2020; GSA, 2018). The planned BEP, FDA FRC, Konterra Town Center, and Brick Yard developments would result in increases in traffic which may increase GHG emissions. The MAGLEV system will operate entirely on electricity, with the exception of certain maintenance vehicles, and thus would not result in a perceptible increase in GHG emissions (MDOT MTA, 2021). The MAGLEV EIS does note that the MAGLEV system would result in an increase in power consumption in the region, and that increase may result in an increase in GHG from powerplants providing the necessary power (MDOT MTA, 2021).

As discussed in Section 4.18.5, implementation of the Master Plan Action Alternatives would contribute a small level of GHG emissions, which could contribute to climate change. Construction impacts on GHG emissions would be localized and temporary, and long-term impacts on GHG emissions would not be discernable. The Action Alternatives for the MRC Master Plan would add a small amount to the impacts to GHG emissions from other development planned and underway in the region.

Noise

Common sources of noise near the MRC include roadway traffic, sirens from emergency vehicles, airplanes, and other human and animal activities. Construction activities for the ongoing and planned improvements at the MRC may result in temporary increases in noise levels. Construction activities, including the use of heavy machinery, for the FDA FRC, Konterra Town Center, the Brick Yard, the Bureau of Engraving and Printing, the BARC demolition project, and the MAGLEV would result in temporary elevations to noise levels. Operation of the FDA FRC and BEP are not anticipated to impact noise levels (GSA, 2018; USACE, 2021). However, traffic generated by the FDA FRC, Konterra Town Center, the Brick Yard, the Bureau of Engraving and Printing may add to noise levels. Operation of the MAGLEV would result in increased noise levels along the trains' route (MDOT MTA, 2021).

As described in Section 4.19.3, construction noise impacts as a result of the MRC Master Plan Action Alternatives would be adverse during construction and would primarily be due to heavy equipment noise. The impacts of construction noise for the MRC Master Plan would contribute to the construction impacts to noise levels in the vicinity of the MRC. Operation of new facilities at the MRC and associated traffic is anticipated to cause imperceptible increases in noise and would not contribute to increased noise levels from other development planned and underway in the region.

Traffic and Transportation

Past development in the DC region and in the vicinity of the MRC has led to extensive vehicular traffic as well as the creation of public transit systems. None of the ongoing or future MRC improvement projects would impact traffic or transportation. Construction activities for planned projects in the area would result in temporary impacts to traffic levels from construction vehicles and construction workers accessing job sites. The FDA FRC, BEP, Konterra Town Center, and the Brick Yard will all result in increases in long-term employment that will lead to increases in traffic (GSA, 2018; USACE, 2021; KLNB, 2021; JacksonShaw, 2021). When the MAGLEV is operational, MTA projects slight decreases in vehicular traffic volumes within the regional roadway network (MDOT MTA, 2021).

As described in Section 4.20.3, implementation of the MRC Master Plan Action Alternatives would result in additional traffic that would affect operation of intersections in the vicinity of the MRC. In addition, during construction activities, there would be traffic impacts from construction vehicles entering and exiting the site. The Action Alternatives for the MRC Master Plan would add to the traffic impacts from other development planned and underway in the region.

Utilities

Past development and construction activities have increased the demand for utilities as land was converted to commercial, residential, and transportation uses. Replacement of the substation and replacement of the backflow preventer on the MRC may result in temporary construction impacts to utilities. Replacement of windows in MOD 1 may improve energy efficiency and have a beneficial impact on energy usage. Construction activities for planned projects in the area may result in temporary interruptions to utilities as new utility lines are installed and connections are made to existing lines. Long-term operation of the FDA FRC, the BEP, and businesses and residences at Konterra Town Center and the Brick Yard will lead to an increase in utility usage. It is assumed that these developments would be constructed with newer energy saving features to minimize utility usage.

As described in Section 4.21.3, under the MRC Master Plan Action Alternatives, the proposed addition of employees and support staff on the MRC would result in an increased demand for water service, sewer, and electricity and new utility lines would be needed. The increase in utility demand under the Action Alternatives for the MRC Master Plan would add to the utility impacts from other development planned and underway in the region.

Environmental Contamination

Past development on and in the vicinity of the MRC has resulted in environmental contamination. Areas such as the FDA FRC and the Brick Yard were formerly industrial and had instances of contamination (GSA, 2018; GTA, 2021). Remediation of these areas is ongoing. Past instance of contamination on the MRC have been remediated (Stantec, 2021a).

None of the ongoing or future MRC improvement projects would impact environmental contamination. Construction, excavation, and grading for the FDA FRC, Konterra Town Center, the Brick Yard, the Bureau of Engraving and Printing, the BARC demolition project, and the MAGLEV each have the potential to encounter existing environmental contamination. It is assumed that all contamination will be remediated in accordance with Federal, State, and local laws and regulations. Remediation of contaminants under any of these projects would have beneficial impacts to the environment. The BEP will utilize hazardous materials in its

operations (MDOT MTA, 2021). BEP will manage these materials in accordance with appropriate State and Federal regulations (MDOT MTA, 2021).

As described in Section 4.22.3, the Phase I ESA did not identify and RECs or HRECs currently at the MRC. Due to the known environmental conditions at the MRC, it is not expected that contamination would be encountered during construction, and none of the alternatives for the MRC Master Plan would contribute to the environmental contamination impacts from other development planned and underway in the region.

Waste Management

Past development and construction activities in the vicinity of the MRC have led to increases in solid waste produced. The ongoing or future MRC improvement projects may generate a small amount of construction waste. Construction activities for planned projects in the area would result in increases in construction waste. The BARC Demolition projects will create demolition waste (USDA-ARS, 2020). Long-term operation of the FDA FRC, the BEP, and businesses and residences at Konterra Town Center and the Brick Yard will generate solid waste. FDA FRC and BEP will have recycling programs to minimize waste entering landfills (GSA, 2018; USACE, 2021). It is anticipated that all projects and developments will dispose of waste in accordance with local and State regulations.

As described in Section 4.23.3, the MRC Master Plan Action Alternatives would generate solid waste from demolition, excavation, and construction, and from operations of the new facilities. A minimum of 50 percent of construction waste would be recycled, reused, or salvaged in accordance with Federal requirements. All remaining construction waste would be disposed at a nearby landfill, which would result in temporary increases in construction waste. The increase in solid waste generated at the MRC under the Action Alternatives would add to the impacts from other development planned and underway in the region.

4.25 ARE THERE ANY ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED ASSOCIATED WITH THIS PROJECT?

Environmental impacts for all Action Alternatives have been described in detail in the previous sections of this chapter. In general, there would be unavoidable adverse effects due to the type of development proposed. There would be a loss of land to building space, which would include some forested land and maintained open lawn areas. While some space would remain open, some areas would be paved, restricting growth of vegetation. There would also be loss of wetlands and stream valley buffers. The loss of these areas would lead to an unavoidable loss of habitat for some animal species. There would also be an increase in traffic densities in the area surrounding the MRC, due to commuting populations.

4.26 WHAT RELATIONSHIPS EXIST BETWEEN THE LOCAL SHORT-TERM USES OF THIS PROJECT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY?

The long-term benefits of the proposed action would occur at the expense of short-term impacts at the MRC. These short-term effects would occur during the period of construction, and include localized noise and air emissions, as well as traffic detours and delays. However, these impacts would be temporary and proper controls would be utilized to prevent them from having a lasting effect on the environment.

Short-term gains to the local economy would occur as local companies and workers are hired, and local businesses provide services and supplies during the construction of the facilities and required infrastructure. Upon completion of the project, gains to the local economy would evolve into a long-term benefit as FDA employees move into the facilities at the MRC and provide consistent business to the surrounding merchants. With the completion of the project, the area could also see an increase in new businesses that would spur the economy.

4.27 ARE THERE ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES ASSOCIATED WITH THIS PROJECT?

The Master Plan would require the commitment of land for construction of the additional FDA facilities and additional parking. The total commitment would include loss of wildlife habitat currently present onsite. While much of the habitat on the MRC would be preserved, this would not be possible where development is proposed.

A commitment of fuel, including natural gas and energy, would be required to construct the additional facilities. Other resource commitments during the construction period would include construction materials and labor. There would be an additional long-term commitment of labor for the maintenance of the facilities and infrastructure. In addition, once the facilities are in place, there is a commitment of utilities, fuel, and power. All these resources relating to the construction and maintenance of the MRC and its infrastructure are considered irretrievably committed.

While there would be the above commitment of resources, through conservation practices some of these resources, such as water supply and through energy net zero buildings, may be retrieved. In addition, the consolidation of FDA facilities to the MRC would require a lower expenditure of funds, energy, and fuel than presently committed at other FDA facilities off site. The implementation of the Master Plan would reduce some of these expenditures at full build-out of the MRC.

4.28 HOW DO THE ALTERNATIVES COMPARE WITH EACH OTHER?

For comparison purposes, **Table 4-61** presents a concise summary of each alternative's potential impacts by resource topic.

Table 4-61. Comparison of Impacts by Alternative

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Soils and Topography (Section 4.3)	• No site grading or construction • Negligible, short-term, adverse impacts from soils disturbance	• Moderate, long-term, adverse impacts to topography • Moderate long-term, adverse impacts to soils • Disturbance of 7.8 acres of soil by demolition • Excavation of 22.7 acres of soils. • Removal of 48,000 cubic yards of soil for below-grade construction • Total steep slopes impacted is 1.5 acres	• Moderate, long-term, adverse impacts to topography • Moderate long-term, adverse impacts to soils • Disturbance of 7.4 acres of soil by demolition • Excavation of 22.5 acres of soils. • Removal of 67,000 cubic yards of soil for below-grade construction • Total steep slopes impacted is 1.4 acres	• Moderate, long-term, adverse impacts to topography • Moderate long-term, adverse impacts to soils • Disturbance of 5.2 acres of soil by demolition • Excavation of 20.2 acres of soils. • Removal of 23,000 cubic yards of soil for below-grade construction • Total steep slopes impacted is 1.2 acres
Groundwater & Hydrology (Section 4.4)	• No increase in impervious surface • No additional impacts from groundwater intrusion	• Minor, short-term, adverse impact from the potential to intercept the groundwater table from construction of buildings • Minor, long-term, adverse impact from groundwater infiltration • Minor, long-term, adverse impact from increase in impervious surfaces • Increase in impervious surface by 9.7 acres • Net increase of 2.8 acres of impervious surfaces which	• Minor, short-term, adverse impact from the potential to intercept the groundwater table from construction of buildings • Minor, long-term, adverse impact from groundwater infiltration • Minor, long-term, adverse impact from increase in impervious surfaces	• Minor, short-term, adverse impact from the potential to intercept the groundwater table from construction of buildings • Minor, long-term, adverse impact from groundwater infiltration • Minor, long-term, adverse impact from increase in impervious surfaces • Increase in impervious surface by 9.5 acres

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
		creates a 1.4 % increase in impervious surfaces	• Increase in impervious surface by 12 acres • Net increase of 5.6 acres of impervious surfaces which creates a 2.8 % increase in impervious surfaces	• Net increase of 248 acres of impervious surfaces which creates a 2.4 % increase in impervious surfaces
Water Resources (Section 4.5)	• No impacts	• Moderate, short-term, adverse impacts to wetlands • Moderate, long-term, adverse impacts to water resources from elevated boardwalk • 0.17 acres wetlands, 0.07 acres of wetland buffers, and 246 linear feet of streams impacted during construction • 0.05 acres of permanent impacts to wetlands and wetland buffers, and 246 lf of permanent stream impacts	• Minor, short-term, adverse impacts to wetlands • Negligible, long-term, adverse impacts to water resources from elevated boardwalk • 0.06 acres wetlands and 0.07 acres of wetland buffers, impacted during construction • Permanent impacts to 0.03 acres of wetlands and 0.01 acres wetland buffers	• Moderate, short-term, adverse impacts to wetlands • Minor, long-term, adverse impacts to water resources from elevated boardwalk • 0.17 acres wetlands, 0.18 acres of wetland buffers, and 68 linear feet of streams impacted during construction • Permanent impacts to 0.05 acres of wetlands, 0.04 acres wetland buffers, 68 lf of streams
Stormwater (Section 4.6)	• Stormwater quantity provided by 4 stormwater detention ponds • Drainage improvements would minimize stormwater runoff	• Addition of 9.7 acres of impervious surface • Removal of 6.9 acres of existing impervious surface • Net increase of 2.8 acres of impervious surface	• Addition of 12.0 acres of impervious surface • Removal of 6.4 acres of existing impervious surface • Net increase of 5.6 acres of impervious surface	• Addition of 9.5 acres of impervious surface • Removal of 4.7 acres of existing impervious surface • Net increase of 4.8 acres of impervious surface

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
		• 1.4 % increase in total impervious surface at the MRC • Minor, long-term, adverse impact from increase in impervious surface • Minor, long-term, adverse impacts to stormwater • Minor, short-term, adverse impacts from construction	• 2.8 % increase in total impervious surface at the MRC • Minor, long-term, adverse impact from increase in impervious surface • Minor, long-term, adverse impacts to stormwater • Minor, short-term, adverse impacts from construction	• 2.4 % increase in total impervious surface at the MRC • Minor, long-term, adverse impact from increase in impervious surface • Minor, long-term, adverse impacts to stormwater • Minor, short-term, adverse impacts from construction
Vegetation (Section 4.7)	• No impacts to vegetation	• Temporary impacts to 5.3 acres of lawn and 0.9 acres to primary management areas (PMA) • Permanent impacts to 3.5 acres of lawn, 4.8 acres of forest, and 0.2 acres of PMAs • Moderate, short-term, adverse impacts during construction • Minor, long-term, adverse impacts from the elevated boardwalk • Minor, long-term, adverse impacts vegetation	• Temporary impacts to 4.9 acres of lawn and 0.3 acres to PMAs • Permanent impacts to 3.5 acres of lawn, 5.2 acres of forest, and less than 0.1 acres of PMAs • Moderate, short-term, adverse impacts during construction • Negligible, long-term, adverse impacts from the elevated boardwalk • Minor, long-term, adverse impacts to vegetation	• Temporary impacts to 4.4 acres of lawn and 0.6 acres to PMAs • Permanent impacts to 4.1 acres of lawn, 4.8 acres of forest, and 0.1 acres of PMAs • Moderate, short-term, adverse impacts during construction • Minor, long-term, adverse impacts from the elevated boardwalk • Minor, long-term, adverse impacts to vegetation

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Wildlife (Section 4.8)	• No impacts to wildlife or wildlife habitat	• Minor, short-term, adverse impacts to wildlife during construction • Minor, long-term, adverse impact to wildlife • Minor, short- and long-term, adverse impacts to migratory birds • Minor, short- and long-term, adverse impacts to aquatic wildlife • Minor, long-term, adverse impacts from loss of habitat		
Coastal Zone Management (Section 4.9)	• Consistent with Maryland's coastal zone management policies	• Negligible, long-term, adverse impact to the coastal zone • Consistent with Maryland's coastal zone management policies		
Cultural Resources (Section 4.10)	• No impacts to cultural resources			
Viewsheds (Section 4.11)	• No impacts to viewsheds	• New building north of MOD 1 would be visible from main entrance • Most building volume would be screened by forested areas • Minor, long-term, adverse impact to viewsheds	• New building north of MOD 1 would be visible from main entrance • Most building volume would be screened by forested areas • Minor, long-term, adverse impact to viewsheds	• No discernable changes to viewsheds • New buildings would be visible from main entrance • Building heights would be taller than existing BRF • Negligible, long-term, adverse impact to viewsheds
Land Use Planning & Zoning (Section 4.12)	• Negligible, long-term, adverse impact to Federal land use planning	• No impacts land use planning and zoning • Action Alternatives would be consistent with NCPC's *Comprehensive Plan for the National Capital* • Action Alternatives would support Prince George's County's Subregion 1 Master Plan		
Community Facilities (Section 4.13)	• No impacts to community facilities	• Negligible, long-term, adverse impacts		

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Safety and Security (Section 4.14)	• No impacts to safety and security of the MRC • No increases in demand in calls for police, fire, and EMS	• Negligible, long-term, adverse impacts from a non-discernable increase number of calls for police response that would not be discernable • Enhanced security measures would provide beneficial impacts to employees, support staff, and visitors		
Economy and Employment (Section 4.15)	• Minor, long-term, adverse impacts to the local or regional economy • Minor, long-term, adverse impacts to employment • No impacts to taxes and revenue	• Short- and long-term beneficial impacts to the regional economy • Short- and long-term beneficial impacts from an increase in employment and personal income • Short- and long-term beneficial impacts from an increase in taxes		
Environmental Justice (Section 4.16)	• No adverse impacts to environmental justice communities	• No disproportionate adverse impacts to low-income, minority, residents, elderly, or children		
Air Quality (Section 4.17)	• Moderate, long-term, adverse impacts from traffic • Conforms to the Washington Metropolitan Region SIP • Replacement of existing air handling units would beneficially impact air quality • Mobile source air emissions would remain at current levels	• Negligible, short- and long-term, adverse impacts to air quality • Negligible, short-term, adverse impacts to air quality from construction • Negligible, long-term, adverse impact from an increase in natural gas use • No exceedance of the 1-hour or 8-hour National Ambient Air Quality Standards for carbon monoxide • Minor, long-term, adverse impact from Mobile Air Source Toxic (MSAT) emissions due to USEPA regulations designed to reduce MSAT emissions • Minor, long-term, adverse impacts from an increase in stationary sources		

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Greenhouse Gas and Climate Change (Section 4.18)	• No new increases to greenhouse gas (GHG) emissions	• GHG emissions would result in negligible, short-term, adverse impacts • Minor, long-term, adverse impacts as a result of GHG emissions • Natural gas heating and small boilers/generators would contribute to climate change that would be slightly discernable		
Noise (Section 4.19)	• Negligible, long-term, adverse impact from an increase in noise levels that would not be discernable	• Minor, short-term, adverse impact during construction from an increase in noise levels • Negligible, long-term, adverse impacts from an increase in traffic and operation of facilities at the MRC		
Traffic and Transportation (Section 4.20)	• Minor, long-term, adverse impacts from traffic in the vicinity of the MRC • No impacts to the local transit network	• Moderate, long-term, adverse impacts after the implementation of Phase 1 of the Master Plan • Moderate, long-term, impact after implementation of Phase 2 Master Plan • Negligible, long-term, adverse impact to local transit • Beneficial impacts to pedestrian and bicyclists		
Utilities (Section 4.21)	• Beneficial impacts from the replacement of the substation, cooling towers, air handling units, generators, and the back-flow preventer at Muirkirk Road; and upgrade to the Building Automation System at MOD 2.	• Negligible, short-term, adverse impacts to utility services • Negligible, long-term, adverse impacts to water service • Negligible, long-term, adverse impacts to sewer service • Negligible, long-term, adverse impacts to electrical, natural gas, and telecom services		
Environmental Contamination (Section 4.22)	• Beneficial impacts from the replacement of the substation, air handling units, and generators	• Minor, long-term, adverse impact for a slight detectable increase of environmental contaminants to landfills • Beneficial, long-term impacts from the removal of hazardous materials		

Resource	No-Action Alternative	Alternative A – Compact Campus	Alternative B – Dual Campus	Alternative C – Northeast Campus
Waste Management (Secton 4.23)	• Minor, short-term, adverse impact from construction for new and ongoing projects at the MRC • Minor, long-term, adverse impact	• Minor, short-term, adverse impact from construction • Minor, long-term, adverse impact from an increase in waste generated at the MRC		

4.29 WHAT MITIGATION MEASURES WOULD BE IMPLEMENTED UNDER EACH OF THE ALTERNATIVES?

Mitigation measures that would be implemented under each of the Action Alternatives are presented in **Table 4-62**.

Table 4-62. Mitigation Measures

Resource Area	Mitigation Measures
Topography & Soils	• Geotechnical Engineering Studies prior to construction • Soil stabilization measures would be designed to account for erosion potential • Erosion and Sediment Control Plan would be developed • BMPs including, but not limited to silt fencing, construction sequencing and seeding of exposed soils would be implemented • Construction contractor would be required to implement and maintain erosion and sediment control measures until construction is complete and vegetation is established
Groundwater Quality & Hydrology	• Implementation of infiltration devices to capture stormwater before it flows into storm sewers or streams • Geotechnical engineering studies would be conducted to verify stormwater and groundwater conditions at the site • Building would be designed and construction to prevent groundwater intrusion
Water Resources	• BMPs including silt fencing, erosion matting, sediment traps, sediment basins, and revegetation would be implemented • Stormwater Management and Erosion & Sediment Control Plans would be developed and submitted to MDE for approval at each Phase of development • All disturbed areas would be revegetated, where possible

Resource Area	Mitigation Measures
	• Streams and wetlands restored to preconstruction conditions to the maximum extent practicable including contour and elevation restoration, revegetation with native species, streambank stabilization, and stream substrate replacement • Obtain authorization under Section 404/401 of the CWA • Obtain authorization under Maryland's Wetlands and Waterways Regulations • Provide for compensatory mitigation for permanent wetland impacts of 5,000 sf or greater and 200 lf or greater of streams
Stormwater	• Development of an Impervious Restoration Work Plan under the MDE NPDES MS4 permit • Reduce or treat 20 percent of existing impervious area, outside limits of new development • ESD strategies would be implemented • LEED® and SITES™ points for stormwater management would be pursued for each building • LID strategies would be employed in accordance with the Technical Guidance on Implementing the Stormwater Runoff requirements for Federal Projects under EISA • Stormwater management strategies would be incorporated into the site as amenities and spatial drivers would be pursued • Stormwater runoff would be conveyed to new non-structural ESD/LID/BMP facilities • Office buildings would maximize the use of rooftop rainwater harvesting, as well as, green roofs • Outfalls to Beaverdam Creek would be non-erosive • NOI would be filed and NPDES General Permits would be required for construction of all new work • BMPs such as silt fencing, erosion matting, inlet protection, sediment traps, sediment basins, and revegetation of exposed sediment would be implemented • Stormwater management plans and sediment and erosion control plans would be prepared for all the new work on site and submitted to MDE for review and approval prior to the construction of each phase. • Per MDE requirements only 20 acres of ground would be disturbed at any time. • All disturbed areas would be permanently revegetated and stabilized following construction. • Temporary impacts to streams and wetlands would be restored to pre-construction conditions to the maximum extent practicable following construction, including contour and elevation restoration, revegetation with native species, streambank stabilization, and stream substrate replacement • A downstream analysis would be required to determine whether Overbank Flood Protection (10-year storm) or Extreme Flood Protection (100-year storm) would be required

Resource Area	Mitigation Measures
Vegetation	• BMPs including, but not limited to tree protection fencing and root pruning for trees with critical root zones within the construction area would be utilized • A Woodland Forest Conservation Plan would be developed to comply with the Prince George's County *Woodland Protection and Planning Law* (PG Co. Code Section 5B-119). • NCPC's *Tree Preservation and Replacement Policy*, the *Prince George's County Woodland and Wildlife Habitat Conservation Ordinance*, and/or the *Maryland Forest Conservation Act* (COMAR 8.19) policies would be followed. • Construction fencing and matting to prevent soil compaction would be utilized • Areas that are not to be developed would not be used for equipment, parking, and other construction related activities unless no other alternatives are feasible • Invasive species would be removed and replanted with native species
Wildlife	• Construction fencing would be used to protect wildlife from entering active construction areas. • 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 • A pre-construction survey would be performed to determine the presence of nests of migratory birds that have the potential to occur in the study area. If nests are identified, FDA would avoid vegetative clearing during the nesting period for those species. • Trees removed for construction would be replaced • Forest clearing would occur outside the roosting periods for the northern long-eared bat
Coastal Zone Management	• Stormwater quantity and quality control measures would be designed and implemented in accordance with local, state, and Federal regulations. • BMPs would be implemented to minimize soil erosion and stormwater pollution. • Stormwater management and Erosion and Sediment Control plans would be prepared and submitted to MDE for review and approval prior to construction. • All disturbed areas would be permanently revegetated and stabilized following construction to prevent further erosion • A Forest Conservation Plan would be developed to comply with Prince George's County Woodland Protection and Planning Law (PG Co. Code Section 5B-119), and the Maryland State Forest Conservation Act (COMAR 8.19). • Removed trees would be replaced following a ratio as outlined in local, state, and Federal regulations to mitigate coastal zone impacts to vegetation and habitat. • Forest clearing would occur outside the roosting periods for the northern long-eared bat. • 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.

Resource Area	Mitigation Measures
	• Any hazardous substances generated during construction or from the operation of new facilities would be disposed of at an MDE-permitted facility or a facility that provides and equivalent level of environmental protection.
Cultural Resources	• No mitigation measures required.
Viewsheds	• No mitigation measures required.
Land Use Planning & Zoning	• No mitigation measures required.
Community Facilities	• No mitigation measures required.
Safety & Security	• A health and safety plan would be put in place to protect construction workers from potential construction hazards and any potential environmental contamination. • Employees, support staff, and visitors would not have access to construction zones • Measures that are taken to provide a secure campus include: A 50-foot security buffer between roads and buildings, extending and enhancing perimeter fencing to accommodate the new development, access control equipment, intrusion detection devices, site lighting, and Security controlled pathways
Economy & Employment	• No mitigation measures required.
Environmental Justice	• All construction equipment powered by an internal combustion engine should be equipped with a properly maintained muffler. • Air compressors would meet current USEPA 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 • During the construction period, fugitive dust and particulate emissions would be mitigated via water and other dust suppressants as necessary. • Employees would be encouraged to use public transportation • Carpool, vanpool, bicycle-to-work; the use of alternative “clean” fuels and non-polluting sources of energy would be used whenever possible • Use green building materials, construction methods, and building designs would be used to the maximum extent practicable. • Measures taken to temporarily reduce the generation of emissions that contribute to O_3 formation would be taken. • Natural gas heater usage will likely be limited during the summer months and when the weather is warmer.
Air Quality	• Water and other dust suppressants would be utilized to control fugitive dust • Carpool, vanpool, bicycle-to-work; the use of alternative “clean” fuels and non-polluting sources of energy would be used whenever possible

Resource Area	Mitigation Measures
	• In response to Air Quality Action Days, measures to temporarily reduce the generation of emissions that contribute to O_3 formation would be taken. • Natural gas heater usage will likely be limited during the summer months and when the weather is warmer.
Greenhouse Gases & Climate Change	• FDA would reduce their carbon footprint by limiting the total number of new parking spaces to approximately 50 percent of the total increase of employees and by promoting use of mass transit and carpooling. • FDA would minimize power generation requirements; and use green building materials, construction methods, and building designs to the maximum extent practicable. • FDA would implement GSA's sustainability goals, including GHG reduction through improving building energy efficiency, and installing advanced and renewable energy technologies.
Noise	• All construction equipment powered by an internal combustion engine should be equipped with a properly maintained muffler. • Air compressors would meet current USEPA 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.
Traffic & Transportation	• Pedestrian/Bicycle Enhancements o Coordinate with Prince George's County to construct planned pedestrian and bicycle improvements on Muirkirk Road and Odell Road, such as bike lanes and sidewalks, or a multi-use pathway. o Provide shower and locker facilities on campus that can be accessed by all employees. o Provide sheltered bicycle racks near building entrances. Sheltered bicycle racks should also include tool and pump stations to allow employees to maintain their bicycles and/or electric bike charging capability. o Design the site to be pedestrian and bicycle friendly by: o Providing bicycle and pedestrian connections to Muirkirk Road. o Providing bicycle and pedestrian connections between all buildings and parking areas. o Ensuring that all security entrances have pedestrian and bicycle access. o Coordinating with Prince George's County to establish a bikeshare or scooter system along the proposed multi-use path and within the surrounding community with stations that include the MRC transportation hub, the Muirkirk MARC station, the Brick Yard, Konterra (future), and other nearby destinations. • Transit Connections

Resource Area	Mitigation Measures
	○ Work with other nearby agencies and campuses to coordinate with WMATA, Maryland Transit Authority (MTA), and RTA to identify opportunities for new or improved transit service to the MRC and surrounding agencies. ○ Construct a transportation hub on campus that can accommodate buses, shuttles, transportation network companies, and future autonomous vehicles. ○ Provide a shuttle connection to the Muirkirk Station. ○ Explore the feasibility of providing a shuttle connection to the College Park Metrorail Station, and/or Greenbelt Metrorail Station. • Keep and maintain a TMP, which would be updated every year
Utilities	• Buildings would be constructed and operated in accordance with EISA • Goal to achieve LEED® Gold certification and net zero energy and water usage for all new buildings on the MRC • Sustainable design and energy conservation measures would include rooftop solar panels, active and passive solar techniques, high-efficiency lighting and occupancy sensors, modern and efficient heating and cooling equipment, natural ventilation systems, and ENERGY STAR® appliances.
Environmental Contamination	• FDA would develop a plan for the proper handling and disposal of any unanticipated hazardous materials encountered • LBP and ACM surveys would be conducted prior to the demolition of the BRF • Spent materials such as batteries, aerosol cans, and fluorescent lights would be disposed of properly.
Waste Management	• The Master Plan would be implemented in accordance with CEQ's Guiding Principles for Sustainable Federal Buildings (CEQ, 2020). • Goal to achieve LEED® Gold certification and net zero energy and water usage for all new buildings on the MRC • A minimum of 50 percent of demolition and construction waste would be diverted from landfills during implementation of the Master Plan • Building materials, products, and supplies would be reused or recycled to the maximum extent practicable. • Waste collection, recycling, and composting programs implemented by GSA would continue. • At least 50 percent of non-hazardous waste would be diverted from landfills through reuse, recycling, and composting. The MRC would follow GSA's Green Purchasing Plan.

5 REFERENCES

Anderson, J.R., E.E. Hardy, J.T. Roach, and R.E. Witmer, (Anderson et al., 1976). *A Land Use and Land Cover Classification System for Use with Remote Sensor Data*. Geological Survey Paper 964.

Center for Hearing and Communication. 2021. *Common Environmental Noise Levels*. Available online: https://chchearing.org/noise/common-environmental-noise-levels/. Accessed April 13, 2021.

Council on Environmental Quality (CEQ), 1997. *Environmental Justice – Guidance Under the National Environmental Policy Act*. December 10, 1997.

CEQ, 2020. *Guiding Principles for Sustainable Federal Buildings.* Available on: https://www.sustainability.gov/pdfs/guiding_principles_for_sustainable_federal_buildings.pdf. December 2020.

Curry, Dennis C. 1983. *Archeological Reconnaissance of the Proposed Intercounty Connector, Montgomery and Prince George's Counties, Maryland*. Maryland Geological Survey, Division of Archeology, Baltimore. Submitted to the Maryland State Highway Administration, Baltimore. Report on file (No. MO 37B), Maryland Historical Trust, Crownsville.

Environmental Laboratory, 1987. Army Corps of Engineers Wetland Delineation Manual. January 1987.

DOEE, 2020. *Ambient Air Quality Trends Report 1996-2019*. Accessed March 23, 2021. https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/2020%20Ambient%20Air%20Quality%20Trends%20Report.pdf

Department of Permitting, Inspections, and Enforcement (DPIE). 2019. *Techno-Gram 002-2019*. September 13, 2019.

Environmental Protection Agency (EPA), 1992. *Guideline for Modeling Carbon Monoxide from Roadway Intersections*. November 1992.

EPA, 2009. *Technical Guidance on Implementing the Stormwater Runoof Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act.* December 2009.

EPA, 2019a. *Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. February 16, 1994.

EPA, 2019b. National Ambient Air Quality Standards. Accessed: December 16, 2020. Available online at: https://www.epa.gov/criteria-air-pollutants/naaqs-table

EPA, 2019c. Overview of Greenhouse Gases. Accessed: April 5, 2021. Available online at: https://www.epa.gov/ghgemissions/overview-greenhouse-gases

EPA, 2020. *EJSCREEN: Environmental Justice Screening and Mapping Tool*. Available online: https://www.epa.gov/ejscreen. Accessed February 17, 2021.

EPA, 2021. *EPA Approves Redesignation of the Washington, D.C. Area for Federal Ozone Air Pollution Standard*. Accessed March 15, 2020. https://www.epa.gov/newsreleases/epa-approves-redesignation-washington-dc-area-federal-ozone-air-pollution-standard

EPA, 2021b. *Carbon Footprint Calculator*. https://www3.epa.gov/carbon-footprint-calculator/. Accessed March 23, 2021.

U.S. Food and Drug Administration (FDA), 1966. *Site Development Plan for the MRC*. July 21, 1966.

FDA, 1973. *Feasibility Study for the Proposed Food and Drug Administration Headquarters Complex in the Washington Metropolitan Area, Phase II: Prescreening of Sites*.

FDA, 1981. *Final Environmental Impact Statement Food and Drug Administration Headquarters Laboratory Facilities*.

FDA, 2020. *LEED® Recycling Material Identification Report, January 2020*.

FDA, 2021. *LEED® Recycling Material Identification Report, January 2021.*

Federal Emergency Management Agency (FEMA), 2016. *FIRM Flood Insurance Rate Map, Prince George's County, MD, Map 24033C0065E*. Available online: https://msc.fema.gov/portal. Accessed December 22, 2020.

Federal Highway Administration (FHWA), 2011. Highway Traffic Noise Analysis and Abatement Policy and Guidance

FHWA, 2016*. Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents.*

U.S. General Services Administration (GSA), 1995. E*nvironmental Assessment of the Center for Veterinary Medicine*. Prepared for GSA by Tetra Tech, Inc. August 14, 1995.

GSA, 2011. *Green Purchasing Plan*. Available on: https://www.gsa.gov/cdnstatic/GSA_Green_Purchasing_Plan.pdf. January 7, 2011.

GSA, 2016. *Fiscal Years 2016-2018 Environmental Justice Strategy.*

GSA, 2018. *2018 Master Plan for the Consolidation of the U.S. FDA Headquarters at the Federal Research Center Final Environmental Impact Statement.* August 2018.

GSA, 2019. *Facilities Standards for the Public Buildings Service* (P-100). https://www.gsa.gov/real-estate/design-construction/engineering-and-architecture/facilities-standards-p100-overview Accessed April 1, 2021.

GSA, 2020. *GSA Sustainability Report and Implementation Plan*. Available on: https://www.sustainability.gov/pdfs/gsa-2020-sustainability-plan.pdf. June 2020.

GSA, 2021. *Mission and Background*. Available online: https://www.gsa.gov/about-us/mission-and-background/background. Accessed January 14, 2021.

Highway Capacity Manual. 2016. *Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis*.

Hill, Phillip J., Katherine Rogers, Lily Kleppertknoop, and Catarina Conceicao. 2014. *A Phase I Archaeological Survey of the Edward T. Gross Property: A 1.333-acre Parcel Located at 10623 Gross Lane in Beltsville, Prince George's County, Maryland*. Archeological Testing and Consulting, Inc. Submitted to Roderick Gross, Glenn Dale, Maryland. Report on file (No. PR 629), Maryland Historical Trust, Crownsville.

JacksonShaw, 2021. *The Brickyard*. Available at: https://jacksonshaw.com/the-brickyard-beltsville-laurel-maryland/. Accessed March 10, 2021.

KLNB, 2021. *Konterra Town Center Fact Sheet*. Available at: http://klnb.propertycapsule.com/property/output/document/view/id:19016/?time=1577094842/. Accessed March 10, 2021.

Luminis Health Doctors Community Medical Center (DCH), 2021. Available online: https://www.dchweb.org/about-us. Accessed January 4, 2021.

Maryland Department of Commerce (MDOC), 2019. *Brief Economic Facts – Prince George's County, Maryland*. Available online: https://open.maryland.gov/business-resources/maryland-stats-data/. Accessed January 19, 2021.

McCarthy, John P., and Ronald A. Thomas. 1981. *Archaeological Investigations at the FDA Proposed Laboratory and Headquarters Facilities, Phase I, Beltsville, Maryland*. Mid-Atlantic Archeological Research, Inc., Newark, Delaware. Submitted to LBC & W, Alexandria, Virginia. Report on file (No. PR 68), Maryland Historical Trust, Crownsville. Maryland Department of the Environment (MDE), 2011. Maryland's Enforceable Coastal Policies. April 8, 2011.

Maryland Department of the Environment (MDE), 2009*. Maryland Stormwater Design Manual, Volumes 1 and 2.* Available on: https://mde.maryland.gov/programs/Water/StormwaterManagementProgram/Pages/stormwater_design.aspx. Accessed March 23, 2021.

MDE, 2011a. *Maryland Standards and Specifications for Soil Erosion and Sediment Control.*

MDE, 2011. *Maryland's Enforceable Coastal Policies*

MDE, 2015, *Maryland Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal Projects*.

MDE, 2017. *State of Maryland 2017 Greenhouse Gas Emission Inventory Documentation*

MDE, 2020. *State Discharge Permit No. 17DP3215, NPDES Permit MD3215Q03*.

MDE, 2021. *Maryland Source Water Assessment Reports*. Available on: https://mde.maryland.gov/programs/Water/water_supply/Source_Water_Assessment_Program/Pages/pg.aspx. Accessed January 5, 2021.

MDE, 2021b. *Maryland's High Quality Waters (Tier II)*. Available on: https://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/Antidegradation_Policy.aspx. Accessed on April 13, 2021.

MDNR, 2021a. *Maryland Wildlife Species*. Available online: https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/mdwllists.aspx. Accessed February 2, 2021.

MDNR, 2021b. *Maryland's Coastal Zone*. Available online: https://dnr.maryland.gov/ccs/Pages/md-coastal-zone.aspx. Accessed February 2, 2021.

MDNR, 2021c. *Forest Conservation Act*. Available online: https://dnr.maryland.gov/forests/Pages/programapps/newfca.aspx. Accessed March 17, 2021.

Maryland Department of Transportation Maryland Transit Administration (MDOT MTA), 2020. Available online: https://s3.amazonaws.com/mta-website-staging/mta-website-

staging/files/System%20Maps/MARC_CommuterBus_Combined_Map_02_2020.pdf. Accessed April 11, 2021

MDOT MTA, 2021. *Draft Environmental Impact Statement and Draft Section 4(f) Evaluation Baltimore Washington Superconducting MAGLEV Project*. January 2021.

Maryland Geological Survey (MGS), 2016. *Establishment of a land subsidence- monitoring network to assess the potential effects of groundwater withdrawals in Southern Maryland*. http://www.mgs.md.gov/publications/report_pages/OFR_16-02-01.html. Accessed March 11, 2021.

MGS, 2021. *Maryland Geology*. Available online: http://www.mgs.md.gov/geology/index.html. Accessed January 4, 2021.

Maryland iMap, 2018. *Maryland's Mapping & GIS Portal*. Available online: imap.maryland.gov/Pages/default.aspx. Accessed January 19, 2021.

Maryland-National Capital Park and Planning Commission (M-NCPPC), 2010a. *Environmental Technical Manual*.

M-NCPPC, 2010b. *Approved Subregion 1 Master Plan and Sectional Map Amendment 2010*. Available online: https://dev24.civicplus.com/894/Subregion-1-Planning-Area. Accessed January 15, 2021.

M-NCPPC and Prince George's County Planning Department. 2012. *African-American Historic and Cultural Resources in Prince George's County, Maryland*. February 2012.

M-NCPPC, 2014. *Plan Prince George's 2035 Approved General Plan*. Approved May 6, 2014.

Maryland State Archives, 2020. *Maryland at a Glance – Unemployment Rates*. Available online: https://msa.maryland.gov/msa/mdmanual/01glance/economy/html/unemployrates.html. Accessed January 19, 2021.

Metropolitan Washington Council of Governments (MWCOG), 2020. W*ashington DC-MD-VA 2015 Ozone NAAQS Nonattainment Area Base Year 2017 Emissions Inventory (Updated May 28, 2020).* https://www.mwcog.org/documents/2020/05/28/washington-dc-md-va-2015-ozone-naaqs-nonattainment-area-base-year-2017-emissions-inventory-updated-may-28-2020-air-quality-air-quality-conformity-ozone/. Accessed April 1, 2021.

MWCOG, 2021. Mapping Boundaries – COG Members. Available at: https://rtdc-mwcog.opendata.arcgis.com/datasets/mapping-boundaries-cog-members?geometry=-82.535%2C38.238%2C-72.082%2C39.733. Accessed April 1, 2021

National Capital Planning Commission (NCPC), 2020. *Tree Preservation and Replacement*. Available on: https://www.ncpc.gov/docs/publications/Tree_Preservation_and_Replacement_Resource_Guide_2020.pdf#:~:text=NCPC%E2%80%99s%20tree%20preservation%20and%20replacement%20policies%20address%20preservation,existing%20tree%E2%80%99s%20size,%20species%20rating,%20and%20condition%20rating. Accessed March 17, 2021.

National Oceanic and Atmospheric Administration (NOAA), 2021. *Coastal Zone Management Act*. Available online: https://coast.noaa.gov/czm/act/. Accessed February 2, 2021.

Personal Communication, 2021a. Sean Davis, FDA. January 27, 2021.

Personal Communication, 2021b. Charles Watts, FDA. January 28, 2021.

Personal Communication, 2021c. Charles Watts, FDA. February 26, 2021.

Personal Communication, 2021d. Sean Davis, FDA, April 14, 2021.

Prince George's County Planning Board (PGCPB), 2008. *PGCPB No. 08-78, File No. DSP-07034/VD-07034: Detailed Site Plan DSP-07034 for The Brick Yard, the Planning Board*. May 15, 2008.

Prince George's County Government – Office of Audits and Investigations, 2018a. *FY 2019 Fire/EMS Budget Report*. Available on: https://pgccouncil.us/DocumentCenter/View/3369/FY-2019-Fire-EMS-Budget-Report. April 30, 2018.

Prince George's County Government – Office of Audits and Investigations, 2018b. *FY 2019 Police Budget Report*. Available on: https://pgccouncil.us/DocumentCenter/View/3369/FY-2019-Fire-EMS-Budget-Report. May 2, 2018.

Prince George's County, *Maryland Atlas (PG Atlas)*, 2021. Available online: https://www.pgatlas.com/. Accessed January 4, 2021.

Prince George's County – Data (PG County – Data). 2021. *Crime Incidents February 2017 to Present*. Available on: https://data.princegeorgescountymd.gov/Public-Safety/Crime-Incidents-February-2017-to-Present/wb4e-w4nf/data. Accessed March 8, 2021.

Prince George's County, Maryland (PG Parks), 2021a. *Prince George's County, Maryland, Department of Parks and Recreation*. Available online: http://www.mncppc.org/185/Parks-Recreation. Accessed January 6, 2021.

PG Parks, 2021b. *Prince George's County, Maryland, Department of Parks and Recreation, Formula 2040*. Available online: http://www.mncppc.org/222/Formula-2040. Accessed January 4, 2021.

Prince George's County, Maryland (PG County), 2021a. P*rince George's County, Maryland, Fire/Emergency Medical Services*. Available online: https://www.princegeorgescountymd.gov/288/Our-Stations. Accessed January 4, 2021.

PG County, Maryland, 2021b. *Prince George's County, Maryland, Police Department*. Available online: https://www.princegeorgescountymd.gov/345/Police. Accessed January 4, 2021.

PG County, Maryland (PG County). 2021c. *Crime Information*. Available on: https://www.princegeorgescountymd.gov/3495/UCR---SRS. February 16, 2021.

Prince George's County Planning Department, 2019. P*rince George's County Countywide Map Amendment*. Available online: http://zoningpgc.pgplanning.com/. Accessed January 14, 2021.

Prince George's County Planning Department (PG County – Planning Department), 2021. *Woodland Conservation*. Available online: http://www.mncppc.org/1564/Woodland-Conservation-Ordinance. Accessed March 17, 2021.

Prince George's County Planning Department (2020). *Proposed Development Cases: Brick Yard*. Available online: https://mncppc.maps.arcgis.com/apps/MapTour/index.html?appid=7fccffbd693241149d8cb00b29640893

Prince George's County Public Schools (PGCPS), 2021. Available online: https://www.pgcps.org/. Accessed January 4, 2021.

Quinn Evans, 2021. *U.S. Food and Drug Administration Muirkirk Road Campus Master Plan Maryland Historical Trust Determination of Eligibility Form.* February 2021.

Regional Transportation Authority of Central Maryland (RTA), 2021. *302 Greenbelt Metro Station.* Available Online: https://www.transitrta.com/wp-content/uploads/2021/03/302.pdf. Accessed: April 11, 2021.

Sorenson, James D. 1990. *Archaeological Investigations of Rebecca Lodge No. 6 of the Benevolent Sons and Daughters of Abraham (Abraham Hall)*. Potomac River Archaeological Survey, Department of Anthropology, American University, Washington, D.C. Submitted to Celentano-Esposito, Inc., Hyattsville, Maryland. Report on file (No. PR 85), Maryland Historical Trust, Crownsville.

Stantec, 2021. *U.S. Food and Drug Administration Muirkirk Road Campus Master Plan – Forestand Delineation.* February 2021.

Stantec, 2021a. *U.S. Food and Drug Administration Muirkirk Road Campus Master Plan – Phase 1 Environmental Site Assessment*. February 2021.

Stantec, 2021b. *U.S. Food and Drug Administration Muirkirk Road Campus Master Plan – Phase I Archaeological Investigations*.

U.S. Army Corps of Engineers (USACE), 2010. *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0*. Available on: https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7594. November 2010.

USACE and Bureau of Engraving and Printing, 2020. *U.S. Department of the Treasury Environmental Impact Statement Draft*. November 6, 2020.

University of Maryland Medical System (UMMS), 2021. *UM Medical Center*. Available online: UM Laurel Medical Center | UM Capital Region Health (umms.org). Accessed February 16, 2021.

U.S. Census Bureau, 2019a. Race. Available online: https://data.census.gov/cedsci/. Accessed January 12, 2021.

U.S. Census Bureau, 2019b. Poverty Status in the Past 12 Months. Available online: https://data.census.gov/cedsci/. Accessed January 13, 2021.

U.S. Census Bureau, 2019c. *Poverty Status in the Past 12 Months by Living Arrangement*. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021.

U.S. Census Bureau, 2019d. *Selected Housing Characteristics*. Available online: https://data.census.gov/cedsci/. Accessed January 19, 2021.

U.S. Census Bureau, 2019e. *Occupancy Status*. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021.

U.S. Census Bureau, 2019f. *Median Income in Past 12 Months (In 2019 Inflation-Adjusted Dollars)*. Available online: https://data.census.gov/cedsci/. Accessed January 15, 2021.

U.S. Census Bureau, 2019g. *Poverty Status in the Past 12 Month*s. Available: https://data.census.gov/cedsci/. Accessed January 19, 2021.

U.S. Census Bureau, 2019h. *Industry by Occupation for the Civilian Employed Population 16 Years and Over.* Available: https://data.census.gov/cedsci/. Accessed January 19, 2021.

U.S. Census Bureau, 2019i. *Employment Status for the Population 16 Years and Over*. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021.

U.S. Census Bureau, 2019j. *Median Household Income in the Past 12 Months (In 2019 Inflation-Adjusted Dollars)*. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021.

U.S. Census Bureau, 2019k, ACS Demographic and Housing Estimates. Available online: https://data.census.gov/cedsci/. Accessed March 10, 2021.

U.S. Census Bureau, 2019l. *Median Contract Rent (Dollars)*. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021.

U.S. Census Bureau, 2019m, *Median Value (Dollars)*. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021.

U.S. Census Bureau, 2019n, *Sex by Industry for the Civilian Employed Population 16 Years and Over*. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021

U.S. Census Bureau, 2019o, Sex by Age. Available online: https://data.census.gov/cedsci/. Accessed March 18, 2021.

U.S. Department of Agriculture (USDA), 2020. N*atural Resources Conservation Service, Web Soil Survey*. Available online: https://websoilsurvey.sc.egov.usda.gov/. Accessed December 17, 2020.

USDA-ARS. (2020). *Demolition of 22 Buildings at the Henry A. Wallace Beltsville Agricultural Research 698 Center*, Beltsville, Maryland.

U.S. Department of Health and Human Services (HHS), 2020. *Sustainability Report and Implementation Plan 2020.*

U.S. Fish and Wildlife Service (USFWS), 2014. *Early Successional Forest*. Available on: https://www.fws.gov/refuge/julia_butler_hansen/wildlife_and_habitat/habitats/early_successional_forest.html. Accessed March 17, 2021.

USFWS, 2021. *Information for Planning and Consultation (IPaC)*. Available on: https://ecos.fws.gov/ipac/. Accessed February 2, 2021.

U.S. Geological Survey (USGS), 2018. *2018 Long-term National Seismic Hazard Map*. https://www.usgs.gov/media/images/2018-long-term-national-seismic-hazard-map. Accessed March 11, 2021.

USGS, 2021a. *USGS Search Earthquake Catalog*. https://earthquake.usgs.gov/earthquakes/search/. Accessed March 11, 2021.

USGS, 2021b. *US Landslide Inventory*. USGS Landslide Hazard Program. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=ae120962f459434b8c904b456c82669d. Accessed March 11, 2021.

Washington Metropolitan Area Transit Authority (WMATA), 2019. *Metro System Map.* Available Online: https://www.wmata.com/schedules/maps/upload/2019-System-Map.pdf. Accessed: April 11, 2021.

Washington Suburban Sanitation Commission (WSSC), 2017. S*ystem Planning Forecast, WSSC Project No DA380Z17, FDA White Oak Master Plan*. May 31,2017

WSSC, 2021. *WSSC Water*. Available online: https://www.wsscwater.com/home.html. Accessed March 4, 2021.

This page left intentionally blank.

6 LIST OF PREPARERS

U.S. GENERAL SERVICES ADMINISTRATION

National Capital Region
1800 F Street, NW Room 4400
Washington, DC 20405

Mina Wright
Director
Office of Planning and Design Quality (OPDQ)

Kristi Williams
Deputy Director
Office of Planning and Design Quality (OPDQ)

Shelly Jones, AIA
Project Manager, Community Planner

Thomas Terrio
Branch Chief, Planning

Marshall Popkin
NEPA Compliance Lead

Paul Gyamfi
Senior NEPA Compliance Specialist

Marc Poling
Transportation, Community Planner

Nancy Witherell
Regional Historic Preservation Officer

Todd Satter
Historic Preservation Specialist

Vivian Lee
Architect

Vanessa Williams
Program Analyst

Ron Wood
Branch Chief
Office of Planning and Design (OPDQ)

Russell Clark
Stormwater Program Manager
Office of Facilities Management

U.S. FOOD AND DRUG ADMINISTRATION

10903 New Hampshire Avenue
Silver Spring, Maryland 20993

Mehryar Ebrahimi
Branch Director
Engineering Management Branch

Andrew Dempster
Branch Director
Logistics and Transportation Management Branch

Elena Garrison
Branch Director
Portfolio and Space Management Branch

Timothy Garman
General Engineer
Engineering Management Branch

Jay Jefferies

Sean Davis
Customer Liaison Specialist

6110 Frost Place
Laurel, Maryland 20707

Elizabeth Edelen Estes
M.S. Environmental Management
University of Maryland University College

Alan K. Arnold, PE
B.S. Civil Engineering
University of Maryland

Madeline Berg
B.S. Environmental Science
California University of PA
M.S. Biology
James Madison University

Adam Catherine. PE, PTOE
M.S. Civil Engineering
University of Delaware

Eric Clark
B.S. Environmental Science
University of Idaho
M.S. Civil Engineering
Boise State University

Jen Cole
B.S. Mechanical Engineering
Boise State University

Jenna Cooley
B.S. Environmental Policy and Planning
Virginia Tech

Kati DiRaimondo, PE
M.S. Civil Engineering
New Jersey Institute of Technology

Joan Glynn
B.A. Communications
University of Maryland

Kurt Goetz
M.S. Geosciences
Stony Brook University
B.S. Geophysics
University of Delaware

Ralph Koziarski, PhD
PhD – Anthropology
University of Wisconsin - Milwaukee

Brian K. O'Mara, PE
B.E. Civil Engineering
Dartmouth College

Khiem H. Nguyen, PE
B.S. Civil and Environmental Engineering
University of Maryland

Rand L. Postell, PE
B.S. Civil Engineering
University of Delaware

Brett Schrader, PWS
M.S. Environmental Science
Towson University

Larry Sly
B.S. Finance and Economics
Florida State University

Michael Sybert
B.A. Biology
University of Richmond

David Votta
B.S. Geography – Environmental Planning
Salisbury University

GBR I Architects, LLC

500 Montgomery Street
Alexandria, VA 22314

William H. Geier
B.A. Catholic University of America

Ann Wheaton
M.A. University of Virginia
B.A. University of Virginia

Sonia R. Jarboe
B.A. Kansas State University

CALLISONRTKL

2101 L Street, NW Suite 200
Washington DC 20037

Rod Henderer

B. Architecture
Fellow of the American Institute of Architects

Renee Schoonbeck
M.S. Human Geography
University of Amsterdam, The Netherlands
American Institute of Certified Planners (AICP)

William Quattlebaum
M. Architecture – Urban Design
Harvard University
B. Architecture
University of Miami

QUINN EVANS

2121 Ward Place, NW, 4th Floor
Washington, DC 20037

Ruth Mills
M.S., Historic Preservation
Eastern Michigan University
Joint M.A., History
Central Michigan University/
University of Strathclyde, Glasgow, UK

This page left intentionally blank.

7 DISTRIBUTION LIST

U.S. Senators and Congressman

Senator Benjamin L. Cardin, U.S. Senate

Senator Chris Van Hollen, U.S. Senate

The Honorable Andy Harris, U.S. House of Representatives

The Honorable Dutch Ruppersberger, U.S. House of Representatives

The Honorable John P. Sarbanes, U.S. House of Representatives

The Honorable Anthony G. Brown, U.S. House of Representatives

The Honorable Steny Hoyer, U.S. House of Representatives

The Honorable David Trone, U.S. House of Representatives

The Honorable Kweisi Mfume, U.S. House of Representatives

The Honorable Jamie B. Raskin, U.S. House of Representatives

Federal Agencies

Mr. Thomas Sharp, Principal Deputy Associate Director for NEPA, Council on Environmental Quality

Mr. Dana Aunkst, Director, Chesapeake Bay Program Office, EPA - Region 3

Mr. Steve Tryon, Director, U.S. Department of Interior

Ms. Barbara J. Rudnick, NEPA Program Coordinator, U.S. Environmental Protection Agency, Region 3

Ms. Cherry Keller, U.S. Fish and Wildlife Service

Dr. Terron L. Hillsman, State Conservationist, USDA Natural Resources Conservation Service

Mr. Marcel Acosta, Executive Director, National Capital Planning Commission

Ms. Tara Morrison, Superintendent, National Park Service National Capital Parks -East

Ms. Lisa Mendelson-Ielmini, Acting Regional Director, National Park Service - National Capital Area

Ms. Erin Thompson, Historic Preservation/106 Director, Delaware Nation

Dr. Brice Obermeyer, Director, Delaware Tribe of Indians - Historic Preservation

Mr. Brett Kopec, Administrative Operations Assistant, USGS

Ms. Carrie Traver, Environmental Assessment Branch Chief Office of Communities, Tribes & Environmental Assessment

Maryland State Government

The Honorable Larry Hogan, Governor of Maryland, Office of the Governor

Senator Joanne Benson, State of Maryland, District 24

Senator Melony Griffith, State of Maryland, District 25

Senator Paul G. Pinsky, State of Maryland, District 22

Senator Douglas J.J. Peters, State of Maryland, District 23

Senator James Carew Rosapepe, State of Maryland, District 21

Senator Obie Patterson, State of Maryland, District 26

Senator Michael A. Jackson State of Maryland, District 27 N

Delegate Nicholas Charles II, State of Maryland, District 25

Delegate Darryl Barnes, State of Maryland, District 25

Delegate Dereck E. Davis, State of Maryland, District 25

Delegate Erek L. Barron, State of Maryland, District 24

Delegate Andrea Fletcher Harrison, State of Maryland, District 24

Delegate Jazz M. Lewis, State of Maryland, District 24

Delegate Marvin E. Holmes, Jr., State of Maryland, District 23B

Delegate Ronald L. Watson, State of Maryland, District 23B

Delegate Anne Healey, State of Maryland, District 22

Delegate Alonzo T. Washington, State of Maryland, District 22

Delegate Nicole A. Williams, State of Maryland, District 22

Delegate Geraldine Valentino-Smith, State of Maryland, District 23A

Delegate Veronica L. Turner, State of Maryland, District 26

Delegate Kriselda Valderrama, State of Maryland, District 26

Delegate Jay Walker, State of Maryland, District 26

Delegate Elizabeth G. (Susie) Proctor, State of Maryland, District 27A

Delegate Michael A. Jackson, State of Maryland, District 27B

Delegate Joseline A. Pena-Melnyk, State of Maryland, District 21

Delegate Mary A. Lehman, State of Maryland, District 21

Delegate Benjamin S. Barnes, State of Maryland, District 21

Maryland State Agencies

Ms. Beth Wojton, Deputy Director, Maryland Environmental Service

Ms. Lisa A, Swoboda, Senior Director, Maryland Department of Commerce - Office of Military & Federal Affairs

Ms. Kelly M. Schulz, Secretary, Maryland Department of Commerce

Ms. Jeannie Haddaway-Riccio, Secretary, Maryland Department of Natural Resources

Mr. Paul Peditto, Director, Maryland Department of Natural Resources Wildlife and Heritage Services

Ms. Lori Byrne, Environmental Review Specialist, Maryland Department of Natural Resources, Wildlife and Heritage Services

Mr. Robert S. McCord, Secretary, Maryland Department of Planning

Mr. Gregory Slater, Secretary, Maryland Department of Transportation

Mr. Tim Smith, Administrator, Maryland State Highway Administration

Ms. Amanda Apple, Preservation Officer, Review and Compliance, Maryland Historical Trust

Mr. Peter Campanides, Maryland Department of Transportation - State Highway Administration

Mr. Kwesi Woodroffe, Maryland Department of Transportation

Ms. Myra Barnes, Lead Clearinghouse Coordinator, Maryland State Clearinghouse

Ms. Amanda Sigillito, Maryland Department of the Environment

Mr. William Seiger, Chief - Waterway Construction Division, Maryland Department of the Environment

Ms. Kelly Neff, Mitigation and Technical Assistance Section, Maryland Department of the Environment

Ms. Helga Weschke, Federal Business Relations, Maryland Department of Commerce

Mr. Matt Baker, Regional and Intermodal Planning Division (RIPD) of MD DOT - SHA

Prince George's County Government

Mr. Todd M. Turner, Chair, Prince George's County Council, District 4

Mr. Calvin S. Hawkins II, Vice-Chair, Prince George's County Council, At-Large

Mr. Mel Franklin, Council Member At Large, Prince George's County Council, At-Large

Mr. Thomas E. Dernoga, Council Member, Prince George's County Council, District 1

Ms. Deni Taveras, Council Member, Prince George's County Council, District 2

Ms. Danielle M. Glaros, Council Member, Prince George's County Council, District 3

Ms. Jolene Ivey, Council Member, Prince George's County Council, District 5

Mr. Derrick Leon Davis, Council Member, Prince George's County Council, District 6

Mr. Rodney C. Streeter, Council Member, Prince George's County Council, District 7

Ms. Monique Anderson-Walker, Council Member, Prince George's County Council, District 8

Mr. Sydney J. Harrison, Council Member, Prince George's County Council, District 9

The Honorable Angela D. Alsobrooks, County Executive, Prince George's County Government

Mr. Joseph P. Gill, Director, Prince George's County Department of the Environment

Ms. Eunieshia Davis, Director, Prince George's County Department of Community Relations

Mr. Terry Ballamy, Director, Prince George's County Department of Public Works and Transportation

Mr. Peter Shapiro, Executive Director, Prince George's County Revenue Authority

Ms. Melinda M. Bolling, Director, Prince George's County Department of Permitting, Inspections, and Enforcement

Ms. Estella Alexander, Director, Prince George's County Department of Housing and Community Development

Ms. Tiffany D. Green, Acting Fire Chief, Prince George's County

Mr. Paul Stephen, Executive Director, Prince George's County Redevelopment Authority

Ms. Mary Giles, Prince George's Department of Permitting, Inspections & Enforcement

Ms. René Lord-Attivor, Prince George's Department of Permitting, Inspections & Enforcement

Mr. Hadi Quaiyum, Prince George's County Department of Public Works and Transportation

Mr. Bobby Ray, Maryland-National Capital Planning Commission - Special Projects Section

Ms. Megan Reiser, Maryland-National Capital Planning Commission - Environmental Planning Section

Ms. Kim Finch, Maryland-National Capital Planning Commission - Environmental Planning Section

Ms. Debbie Tyner, Acting Director, Maryland-National Capital Planning Commission - Prince George's County Department of Parks and Recreation

Ms. Elizabeth M. Hewlett, Chairman, Maryland-National Capital Planning Commission - Prince George's County Planning Board

Mr. David S. Iannucci, President and CEO, Prince George's County Economic Development Corporation

Ms. Sangrea Watkins, Special Assistant to President / CEO and Operations Manager, Prince George's County Economic Development Corporation

Mr. Bobby Ray, Maryland-National Capital Planning Commission

Ms. Melissa Daston, Maryland-National Capital Planning Commission

Ms. Judith Howerton, Maryland-National Capital Planning Commission

Ms. Christine Osei, Maryland-National Capital Planning Commission

Mr. Zachary Luckin, Planner, Prince George's County Planning Department

City of Laurel

Mr. Stephen E. Allen Sr, Fire Marshal, City of Laurel - Fire Marshal and Permit Services

Ms. Joanne Hall - Barr, Director of Parks and Recreation, City of Laurel

Mr. Rob Ferree, Director of Public Works, City of Laurel

Mr. William Goddard, City Administrator, City of Laurel

Ms. LouAnn Crook, Deputy City Administrator, City of Laurel

Mr. Kevin Frost, Chief Information Officer, City of Laurel

Ms. Christina L. Cornwell, Emergency Manager, City of Laurel

Mr. Christian Pulley, Director of Economic and Community Development, City of Laurel

Ms. Audrey Barnes, Director of Communications, City of Laurel

Ms. Kim Rau, Clerk to the City Council, City of Laurel

Ms. Michele Saylor, Director of Budget and Personnel Services, City of Laurel

The Honorable, Craig A. Moe, City of Laurel Mayor

The Honorable, Valerie M. A. Nicholas, City of Laurel Council Member, At Large

The Honorable, Michael R. Leszcz, City of Laurel Council Member, Ward 1

The Honorable, Carl DeWalt, City of Laurel Council Member, Ward 1

The Honorable, Brencis Smith, City of Laurel Council Member, Ward 2

The Honorable, Keith R. Sydnor, City of Laurel Council President, Council Member, Ward 2

The Honorable, Sara Green, City of Laurel Chief of Staff

City of Laurel – Police

City of Laurel - Community Redevelopment Authority

City of Laurel - Emergency Services Commission

City of Laurel - Environmental Affairs Committee

City of Laurel - Historic District Commission

City of Laurel - Citizens Advisory Committee for Parks and Recreation

Regional Agencies

Mr. Chuck Bean, Executive Office, Metropolitan Washington Council of Governments

Mr. William John Armstrong III, Registered Agent, Maryland Rideshare Corporation

Mr. Joseph F. Beach, Deputy General Manager, Washington Suburban Sanitary Commission

Ms. Kitty Block, President and CEO, Humane Society of the United States

Civic Associations, Homeowners Association, and Local Residents

Ms. Tracy Gant, President, Prince George's County Municipal Association

Mr. Bob Derrick, President, Montpelier Community Association

Mr. Jack Keating, Vice President, Montpelier Community Association

South Ridge Apartments and Townhomes

Bedford Neighborhood Park MNCPPC

Howard University Beltsville Campus

Mr. Bradford L. Sims, President, Capitol Technology University

Montpelier Arts Center

Army National Guard Recruiting Station

Mr. Will Bronson, President, Montpelier Woods Homeowners Association (MWHOA)

Mr. David Vaughn, Community Manager, Montpelier Hills Homeowners Association

Woodbridge Crossing HOA

Brick Yard Station HOA

Snowden Pond at Montpelier HOA

Ms. Diana Hendrick, Woodbridge Crossing HOA

Ms. Miki Cawley, Community Manager, Indian Creek HOA

Royal Christian Academy

Abraham Hall

Montpelier Village Condo HOA

The Market at Brickyard Apartments

EMC FM Mission House

Crestleigh Apartments

Queen's Chapel United Methodist Church

Vansville Heights Citizens Association

Residents for a Better Beltsville

South Laurel Recreation Council, Inc.

Susan M Franklin

Mr. & Mrs. Martin Wilson

Ms. Anne F Moroz

Mr. & Mrs. Spencer Duffy

Ms. Mary W Ross

Mr. & Mrs. Gary Gaines

Ms. Kimberly Janelle Parmar

Mr. Delfin Tabi

Ms. Karen Y Stewart

Mr. Douglas Sherman

Mr. & Mrs. Jose Martinez

Mr. & Mrs. Milton Jones

Mr. & Mrs. George M Wills

Mr. Hampton E Jr & Ms. Sharon E Conway

Mr. Pedro N Ramos Sr.

Mr. & Mrs. Abner L Galdamez

Mr. Lawrence H Ulrich

Mr. Ricardo Carrillo

Mr. Luis Ramirez

Mr. & Mrs. Bryan Cater

Ms. Tina A Milner

Mr. Abdulahi Mahmoud

Mr. George M Wills

Mr. & Mrs. Tom Bethea

Ms. Michelle Walker

Ms. Allison Harris

Ms. Alicia Brooks

Mr. Rico DiCamillo

Mr. Damon Freijomel, Data Specialist, Construction Journal

This page left intentionally blank.