

# ENVIRONMENTAL ASSESSMENT



ADDRESSING IMPLEMENTATION OF THE  
REAL PROPERTY MASTER PLAN AT  
DEFENSE DISTRIBUTION CENTER,  
SUSQUEHANNA



DEFENSE DISTRIBUTION CENTER, SUSQUEHANNA

## ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing material	MILCON	military construction
ACP	access control point	MMBtu	million British thermal units
AOC	area of concern	msl	mean sea level
AT/FP	antiterrorism/force protection	NEPA	National Environmental Policy Act
BMP	best management practice	NPDES	National Pollutant Discharge Elimination System
CEQ	Council on Environmental Quality	NRCS	Natural Resources Conservation Service
CFR	Code of Federal Regulations	NRHP	National Register of Historic Places
DLA	Defense Logistics Agency	NZEP	Net-Zero Energy Plan
DLAR	DLA Regulation	OFZ	Obstacle Free Zone
DOD	Department of Defense	PADEP	Pennsylvania Department of Environmental Protection
EA	Environmental Assessment	PCB	polychlorinated biphenyl
EIS	Environmental Impact Statement	pCi/L	picoCuries per liter
EISA	Energy Independence and Security Act	RPMP	Real Property Master Plan
FONSI	Finding of No Significant Impact	RPZ	Runway Protection Zone
ft <sup>2</sup>	square feet	RSA	Runway Safety Area
GPD	gallons per day	SP	Sustainability Plan
I	Interstate	SWMU	solid waste management unit
INRMP	Integrated Natural Resources Management Plan	USEPA	U.S. Environmental Protection Agency
IPMP	Integrated Pest Management Plan	USFWS	U.S. Fish and Wildlife Service
IRP	Installation Restoration Program	WWTP	wastewater treatment plant
LBP	lead-based paint		
LEED	Leadership in Energy and Environmental Design		
LID	low-impact development		

## **ENVIRONMENTAL ASSESSMENT ADDRESSING IMPLEMENTATION OF THE REAL PROPERTY MASTER PLAN AT DEFENSE DISTRIBUTION CENTER, SUSQUEHANNA**

**Responsible Agency:** Defense Logistics Agency (DLA).

**Affected Location:** Defense Distribution Center, Susquehanna.

**Report Designation:** Environmental Assessment (EA).

**Abstract:** The DLA proposes to implement the installation's Real Property Master Plan (RPMP) and its component plans for Defense Distribution Center, Susquehanna in Pennsylvania. The RPMP provides the direction for the future development of the installation over the next 20 to 30 years and identifies a series of building, infrastructure, and transportation projects that would ensure that the installation is able to meet its current and future mission requirements in a sustainable and environmentally conscious manner.

Implementing the projects in the RPMP would replace undersized, outdated buildings and infrastructure with modern, energy-efficient, sustainable buildings and infrastructure. The proposed projects include the construction of 4,201,966 square feet (ft<sup>2</sup>) of buildings and the demolition of 2,503,790 ft<sup>2</sup> of buildings, which would result in an increase in impervious surface and parking places. Additionally, the proposed projects include a transit and non-motorized transportation system consisting of two transit hubs; multiple bus stops; a variety of bus, pedestrian, and bicycle routes; and rail access to reduce truck conveyance.

Component plans of the RPMP include the Net-Zero Energy Plan (NZEP), Sustainability Plan (SP), Integrated Natural Resources Management Plan (INRMP), and Integrated Pest Management Plan (IPMP) for the installation. The NZEP balances the installation's future energy demand from buildings, industrial processes, fleet vehicles, and equipment with onsite and offsite renewable energy production. The SP provides a pathway for the installation to move toward compliance with relevant Federal mandates regarding sustainability. The INRMP is the installation's plan for managing its natural resources while ensuring the success of the military mission. The IPMP is the installation's plan for its pest management program.

Implementation of the NZEP, SP, INRMP, and IPMP would enable the installation to reduce energy and fossil fuel use, increase alternative fuel use, achieve a net-zero energy footprint, meet or exceed relevant Federal sustainability mandates, practice sound natural resources stewardship, comply with environmental policies and regulations, and reduce reliance on pesticides while reducing real property damage and maintenance costs.

Under the No Action Alternative, DLA would not implement the RPMP or its component plans. In general, implementation of the No Action Alternative would require that the DLA continue to use the existing outdated, undersized, and inefficient facilities and abandon the proposed infrastructure enhancements, sustainability improvements, and natural resources projects of the component plans, which would hamper the ability of the installation to meet its current and future mission requirements. The No Action Alternative would not meet the purpose of and need for the Proposed Action.

No significant effects on environmental resources would be expected from the Proposed Action. Insignificant, adverse effects on recreation, geological resources, water resources, and transportation and infrastructure would be expected. Insignificant, beneficial effects on airspace management and safety, land use and recreation, noise, air quality, geological resource, water resources, biological resources, transportation and infrastructure, and hazardous materials and wastes also would be expected.

*This page intentionally left blank.*

# TABLE OF CONTENTS

**ABBREVIATIONS AND ACRONYMS ..... INSIDE FRONT COVER**

## **ABSTRACT**

<b>1.0</b>	<b>PROPOSED ACTION PURPOSE AND NEED .....</b>	<b>1</b>
1.1	Introduction .....	1
1.2	Purpose of and Need for the Proposed Action .....	1
1.3	Scope of the Analysis .....	1
1.4	Summary of Key Environmental Compliance Requirements .....	3
	1.4.1 National Environmental Policy Act .....	3
	1.4.2 Applicable Environmental and Regulatory Compliance.....	3
1.5	Agency Coordination and Public Involvement .....	3
<b>2.0</b>	<b>PROPOSED ACTION AND ALTERNATIVES DESCRIPTION.....</b>	<b>5</b>
2.1	Proposed Action .....	5
	2.1.1 Real Property Master Plan.....	5
	2.1.2 Net-Zero Energy Plan.....	11
	2.1.3 Sustainability Plan .....	11
	2.1.4 Integrated Natural Resources Management Plan .....	11
	2.1.5 Integrated Pest Management Plan .....	12
2.2	No Action Alternative .....	12
2.3	Alternatives Considered, Including Those Eliminated from Detailed Analysis.....	12
<b>3.0</b>	<b>AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES.....</b>	<b>13</b>
3.1	Airspace Management and Safety .....	14
	3.1.1 Existing Conditions .....	14
	3.1.2 Environmental Consequences.....	14
3.2	Land Use and Recreation .....	15
	3.2.1 Existing Conditions .....	15
	3.2.2 Environmental Consequences.....	15
3.3	Noise .....	16
	3.3.1 Existing Conditions .....	16
	3.3.2 Environmental Consequences.....	16
3.4	Air Quality .....	17
	3.4.1 Existing Conditions .....	17
	3.4.2 Environmental Consequences.....	17
3.5	Geological Resources.....	17
	3.5.1 Existing Conditions .....	17
	3.5.2 Environmental Consequences.....	18
3.6	Water Resources .....	20
	3.6.1 Existing Conditions .....	20
	3.6.2 Environmental Consequences.....	21

3.7	Biological Resources .....	21
3.7.1	Existing Conditions .....	21
3.7.2	Environmental Consequences .....	22
3.8	Transportation and Infrastructure .....	23
3.8.1	Existing Conditions .....	23
3.8.2	Environmental Consequences .....	24
3.9	Hazardous Materials and Wastes .....	26
3.9.1	Existing Conditions .....	26
3.9.2	Environmental Consequences .....	28
<b>4.0</b>	<b>CUMULATIVE AND OTHER EFFECTS .....</b>	<b>29</b>
4.1	Cumulative Effects .....	29
4.2	Unavoidable Adverse Effects .....	30
4.3	Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls .....	30
4.4	Relationship Between Short-term Uses of Man’s Environment and Maintenance and Enhancement of Long-term Productivity .....	30
4.5	Irreversible and Irretrievable Commitment of Resources .....	30
4.6	Energy Requirements and Conservation Potential .....	30
4.7	Natural or Depletable Resource Requirements and Conservation Potential .....	30
<b>5.0</b>	<b>CONCLUSION .....</b>	<b>31</b>
<b>6.0</b>	<b>REFERENCES .....</b>	<b>33</b>
<b>7.0</b>	<b>LIST OF PREPARERS .....</b>	<b>35</b>

**FIGURES**

1.1	Defense Distribution Center, Susquehanna and Vicinity .....	2
2.1	Future Land Use Plan .....	7
2.2	Locations of Future Development Plan MILCON Projects (Phase I) .....	8
2.3	Locations of Future Development Plan MILCON Projects (Phase II) .....	9
3.1	Geological Hazards, Surface Waters, Floodplains, and Wetlands .....	19
3.2	Installation Restoration Sites with Groundwater Monitoring or Land Use Controls .....	27

**TABLES**

2.1	Future Development Plan MILCON Projects .....	6
5.1	Potential Impacts of the Proposed Action and No Action Alternative .....	31

**APPENDIX**

A.	Proposed Sustainment, Restoration, and Modernization Projects and Component Plan Projects
----	--

# 1.0 PROPOSED ACTION PURPOSE AND NEED

## 1.1 Introduction

Defense Distribution Center, Susquehanna is a Defense Logistics Agency (DLA) installation in New Cumberland, Pennsylvania, approximately 3 miles southeast of downtown Harrisburg (see **Figure 1.1**). It is located on U.S. Army land permitted to DLA and consists of approximately 850 acres of land with more than 150 buildings. The installation employs approximately 3,050 military and civilian personnel (DLA 2013a).

This Environmental Assessment (EA) addresses the DLA’s proposal to implement the installation’s Real Property Master Plan (RPMP) and its component plans, which include the Net-Zero Energy Plan (NZEP), Sustainability Plan (SP), Integrated Natural Resources Management Plan (INRMP), and Integrated Pest Management Plan (IPMP). All of the component plans affect the RPMP; however, the NZEP and SP are the primary drivers of the plan. The RPMP provides the direction for future development of the installation over the next 20 to 30 years and identifies potential projects that would ensure that the installation is able to meet its current and future mission requirements. It includes a Future Land Use Plan, Capital Investment Strategy, and Future Development Plan.

This EA analyzes the potential for significant environmental impacts associated with the Proposed Action and alternatives, including the No Action Alternative. It has been prepared in compliance with the National Environmental Policy Act (NEPA); Council on Environmental Quality (CEQ) regulations implementing NEPA (Title 40 Code of Federal Regulations [CFR] Parts 1500–1508); U.S. Department of Defense (DOD) Directive 6050.1, Environmental Considerations in DOD Actions; DLA Regulation (DLAR) 1000.22, Environmental Considerations in Defense Logistics Agency Actions; and other applicable DLA issuances (e.g., regulations, directives, memorandums, instructions).

## 1.2 Purpose of and Need for the Proposed Action

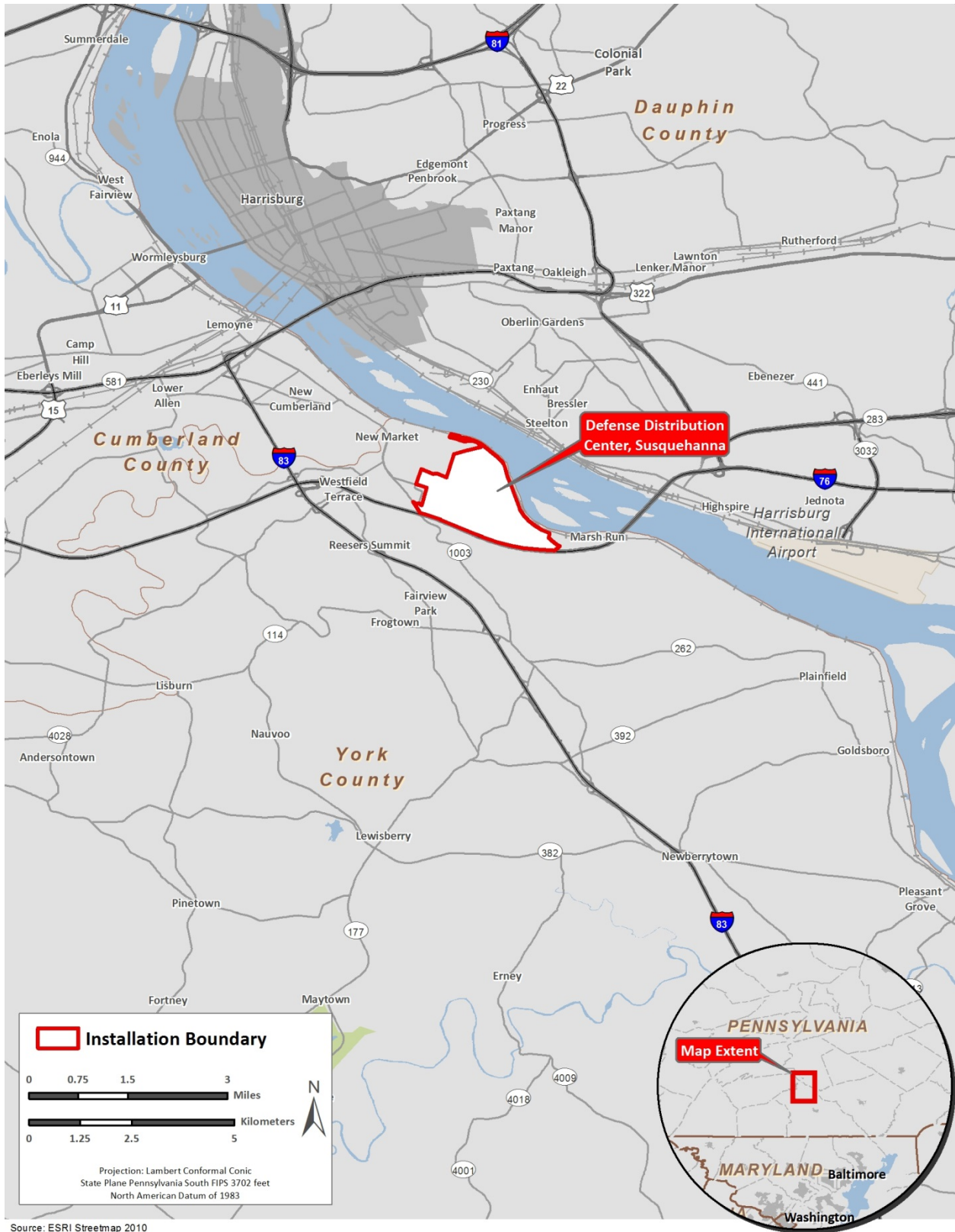
The purpose of the Proposed Action is to implement the installation’s RPMP and its component plans to establish a foundation providing direction for the future development of the facilities, infrastructure, transportation system, and environmental conditions at the installation. The Proposed Action is needed to ensure that the installation is able to meet its current and future mission requirements while protecting its natural resources and ensuring the energy efficiency and sustainability of the installation.

## 1.3 Scope of the Analysis

The scope of the analysis includes the range of actions, alternatives, and potential impacts to be considered. The scope of the Proposed Action and alternatives considered in this EA are presented in **Section 2**. In accordance with CEQ regulations, the No Action Alternative has been analyzed to provide the baseline against which the potential environmental impacts of implementing the action alternatives can be compared.

This EA analyzes the potential impacts of implementing the RPMP and its component plans, which would guide the siting, design, and timing of future projects to meet current and future mission requirements and ensure development is conducted in a sustainable and environmentally conscious manner.

Environmental impacts associated with the construction, demolition, and operational activities of the individual projects in the RPMP and its component plans will be addressed in separate NEPA documentation as those projects are further defined. Additionally, this EA does not address personnel-level changes due to mission changes or installation consolidation (i.e., transfer of personnel from Naval Support Activity Mechanicsburg to Defense Distribution Center, Susquehanna).



**Figure 1.1 Defense Distribution Center, Susquehanna and Vicinity**



## 1.4 Summary of Key Environmental Compliance Requirements

### 1.4.1 National Environmental Policy Act

The NEPA, 42 United States Code 4321 et seq., was signed into law on January 1, 1970. The Act establishes a national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the Federal agencies. The Act also establishes the CEQ to coordinate Federal environmental efforts. The process for implementing NEPA is outlined in 40 CFR Parts 1500–1508. The CEQ regulations specify that an EA serves to briefly provide evidence and analysis for determining whether to prepare a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS). As part of the EA process, DLA will determine whether the Proposed Action would have the potential to result in significant impacts. If such impacts are predicted, then DLA would decide whether to mitigate impacts below the level of significance, undertake the preparation of an EIS, or select the No Action Alternative. The DLA’s implementing regulation for NEPA is DLAR 1000.22, Environmental Considerations in Defense Logistics Agency Actions.

### 1.4.2 Applicable Environmental and Regulatory Compliance

The NEPA process does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an EA or EIS, which enables the decisionmaker to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action.

## 1.5 Agency Coordination and Public Involvement

DLAR 1000.22 requires DLA to facilitate coordination with Federal, state, and local officials and organizations that could be affected by a proposed action. DLA invites all agencies and the public with an interest in the Proposed Action and alternatives to participate in this NEPA process, which will provide DLA with the opportunity to coordinate with and consider the views of other agencies and individuals. A premise of NEPA is that the quality of Federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process.

*This page intentionally left blank.*

## 2.0 PROPOSED ACTION AND ALTERNATIVES DESCRIPTION

### 2.1 Proposed Action

DLA proposes to implement the installation's RPMP and its component plans. The RPMP provides the direction for the future development of the installation over the next 20 to 30 years and identifies potential projects that would ensure the installation is able to meet its current and future mission requirements in a sustainable and environmentally conscious manner.

#### 2.1.1 Real Property Master Plan

The RPMP is intended to be the starting point for all programming, design, and construction decisions that support the long-range needs of the installation. The primary aspects of the RPMP include the vision, goals, objectives, Future Land Use Plan, Capital Investment Strategy, and Future Development Plan.

**Vision:** To sustain the best eastern continental U.S. distribution point in support of DLA's mission to provide effective and efficient worldwide support that is warfighter-focused, globally responsive, and demonstrates fiscally responsible supply-chain leadership.

**Goals:** The following eight goals were developed from the planning vision: (1) provide responsive state-of-the-art logistical facilities; (2) sustain and improve installation infrastructure; (3) preserve and investigate land use options; (4) create business and community neighborhoods with high-performing buildings; (5) lead in energy conservation, efficiency, and sustainability practices; (6) maintain RPMP policies, procedures, and tools; (7) develop a sustainable workforce; and (8) implement the remaining goals and objectives of the SP.

**Objectives:** Each goal has one or more objectives that are to be implemented to support it.

**Future Land Use Plan:** Examination of environmental and operational considerations, land use patterns, functional areas, and spatial relationships led to the development of a Future Land Use Plan (see **Figure 2.1**), which identifies the areas most suitable for growth and development and the areas most suitable for preservation. The Future Land Use Plan is the optimal organization of real property to allow the installation to operate most efficiently. It consolidates land uses, minimizes land conflicts, expands the industrial land use, and adds an antiterrorism/force protection (AT/FP) land use category.

**Capital Investment Strategy:** The Capital Investment Strategy weighs the options for realizing a balance between existing and required facilities against a variety of criteria to create a prioritized list of projects.

**Future Development Plan:** The Future Development Plan is the culmination of the vision, goals, objectives, and strategies, prioritized into a series of action plans (i.e., projects). The Future Development Plan is the implementation tool for the RPMP. Future Development Plan (Phase I) identifies 19 Military Construction (MILCON) projects (see **Table 2.1**) and 62 Sustainment, Restoration, and Modernization projects (see **Appendix A**) necessary to support the installation's mission and goals, particularly with respect to warehouse space. The Future Development Plan (Phase II) identifies five transportation-related MILCON projects that the installation may address once the immediate concerns of facilities and infrastructure are met.

**Table 2.1** identifies the Future Development Plan MILCON projects. The projects noted in **Table 2.1** are identified on **Figures 2.2** and **2.3** using the Project Reference Letter found within the left hand column of the table. The proposed construction projects would be designed to meet Leadership in Energy and Environmental Design (LEED) Silver certification and include sustainable design concepts such as transpired solar collectors, radiant floor heating, and other strategies to reduce energy demand, increase water efficiency, and improve indoor environmental quality. Energy conservation efforts and sustainable principles such as life-cycle, cost-effective practices; green infrastructure/low-impact development (LID); and Energy Policy Act of 2005 features would be integrated into the proposed construction projects.

**Table 2.1 Future Development Plan MILCON Projects**

Project Reference Letter	Project Name and Proposed Building Construction Actions	Proposed Building Demolition Actions	Installation Project Number	Fiscal Year
<b>Future Development Plan (Phase I)</b>				
A	Construct New Headquarters Facility (Building 430)	Buildings 81, 351, 403, and 404	DDCX0802	2013
B	Upgrade Hazardous Materials Warehouse (Building 87)	None	DDCX1204	2014
C	Upgrade Entry Control Facilities (Posts 1, 3, and 4)	Buildings at Post 1, 3, and 4	DDCX1202	2014
D	Construct General Purpose Warehouse (Building 780)	Buildings 5 and 6	DDCX1202	2014
E	Construct New Sewage Treatment Plant (multiple structures)	Existing sewage treatment plant (multiple structures)	DDCX1303	2014
F	Construct New Reservoir (Building 2060)	Existing reservoir (Building 17)	DDCX1305	2014
G	Construct Communications Building (Building 2055)	Buildings 12 and 14	DDCX1301	2014
H	Construct East Coast Training Center (Building 500)	None	DLA DIST 14-03	2019
I	Upgrade Public Safety Facility (Building 911)	None	DDCX1309	2014
J	Construct Bulk Shed (Building 790)	None	NA	2019
K	Construct New Mail Sorting Facility (Building 2069)	Building 69	NA	2016
L	Construct General Purpose Warehouse (Building 730)	Buildings 1, 52, 53, and 54	DDC 2015-1	2017
M	Construct General Purpose Warehouse (Building 734)	Buildings 50 and 51	DDC 2018-08	2021
N	Construct General Purpose Warehouse (Building 754)	Buildings 55, 56, and 66	NA	2021
O	Construct General Purpose Warehouse (Building 752)	Buildings 57, 58, and 67	NA	2021
P	Construct General Purpose Warehouse (Building 770)	Buildings 59 and 150	NA	2027
Q	Construct General Purpose Warehouse (Building 772)	None	NA	2027
R	Construct Bulk Shed (Building 728)	None	NA	2019
S	Hazardous Materials Warehouse Expansion (Building 87)	None	NA	2014
<b>Future Development Plan (Phase II)</b>				
T	Construct Administrative Building (Building 420)	Buildings 133 through 144	NA	TBD
U	Transit Hub	None	NA	TBD
V	Bus Stops	None	NA	TBD
W	Rail Track Extension and Hub	Buildings 284, 286, and 287	NA	TBD
X	Pedestrian, Bicycle, and Fitness Trails	None	NA	TBD

Key: NA = not available, TBD = to be determined

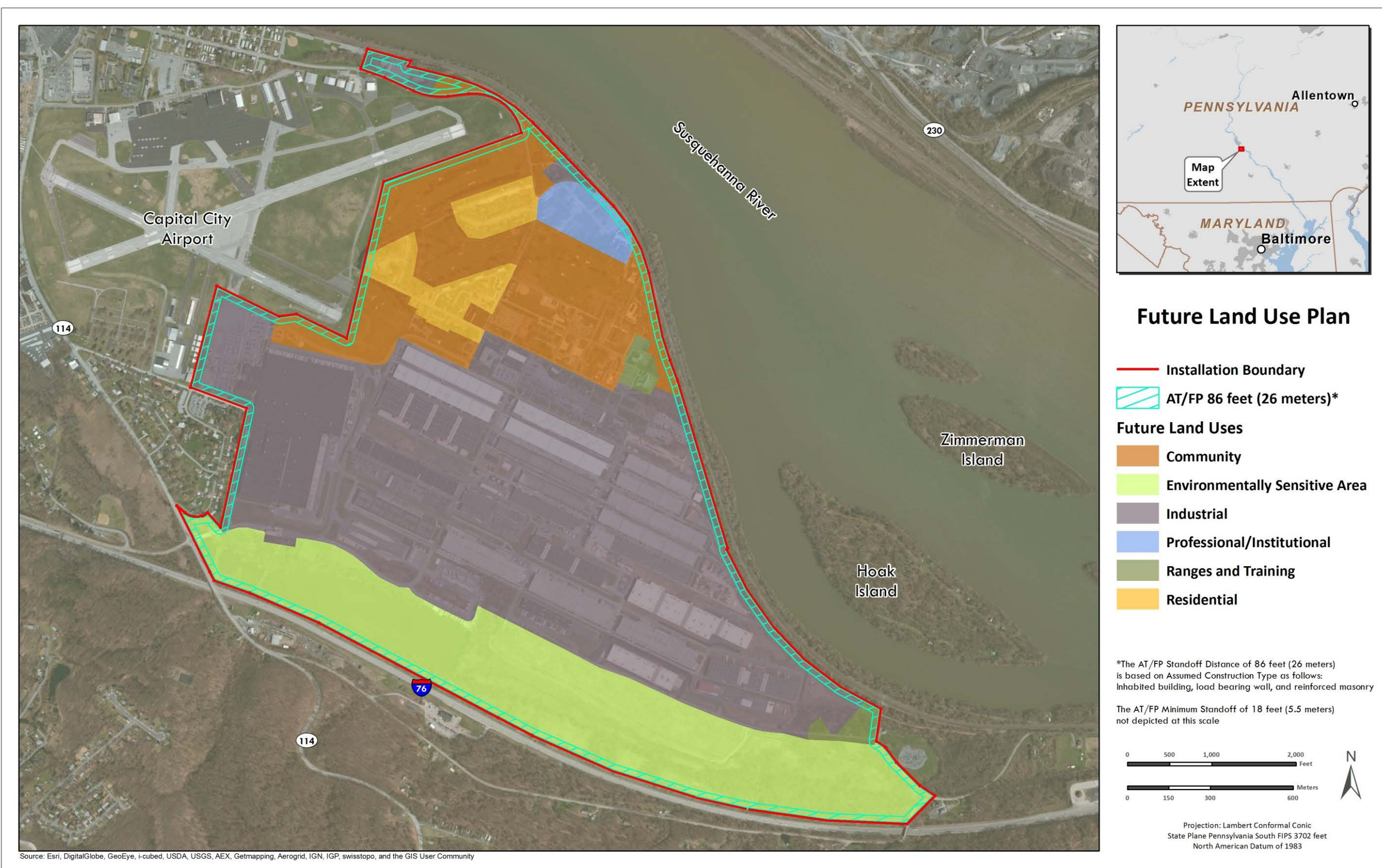
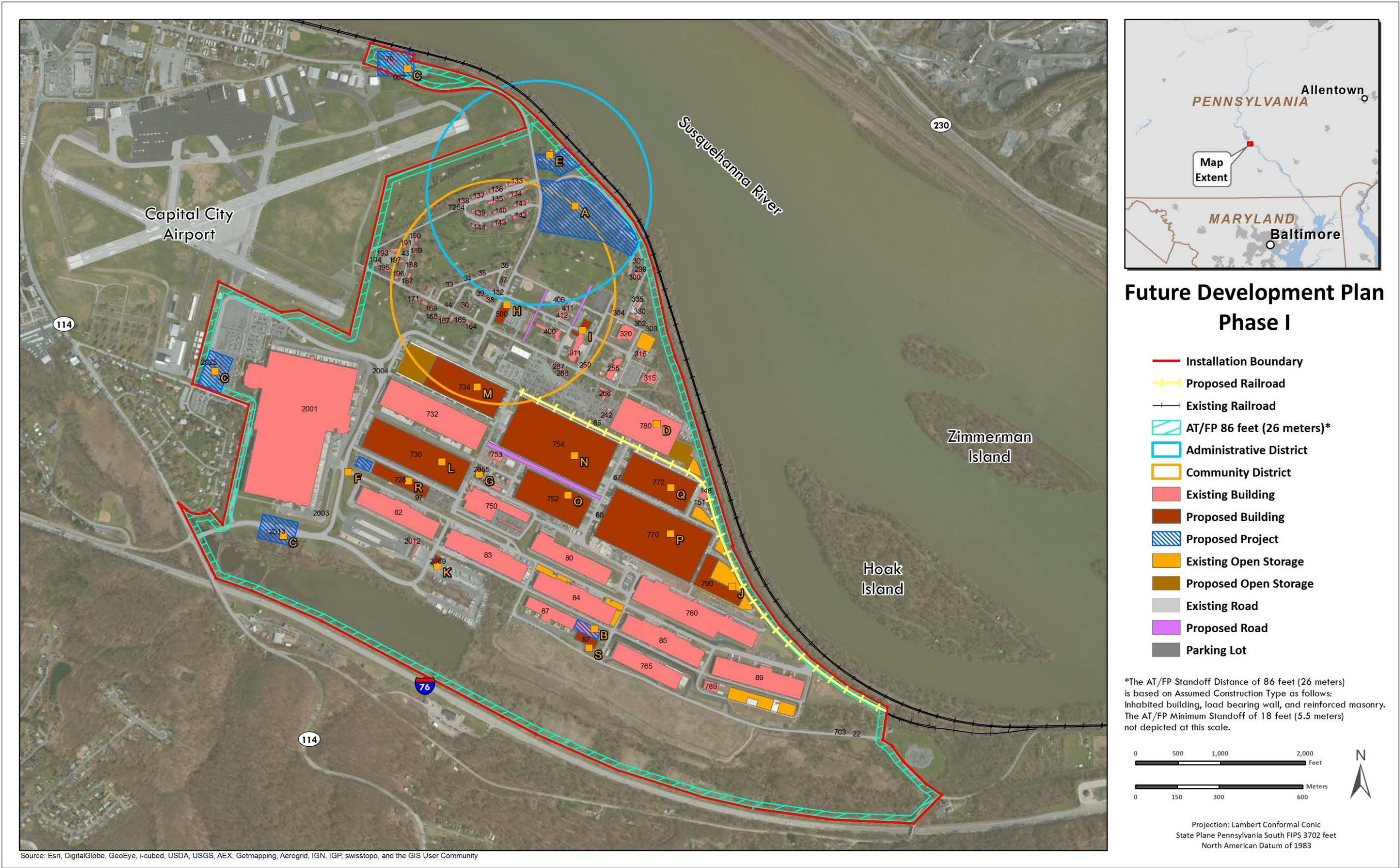


Figure 2.1 Future Land Use Plan



**Figure 2.2** Locations of Future Development Plan MILCON Projects (Phase I)

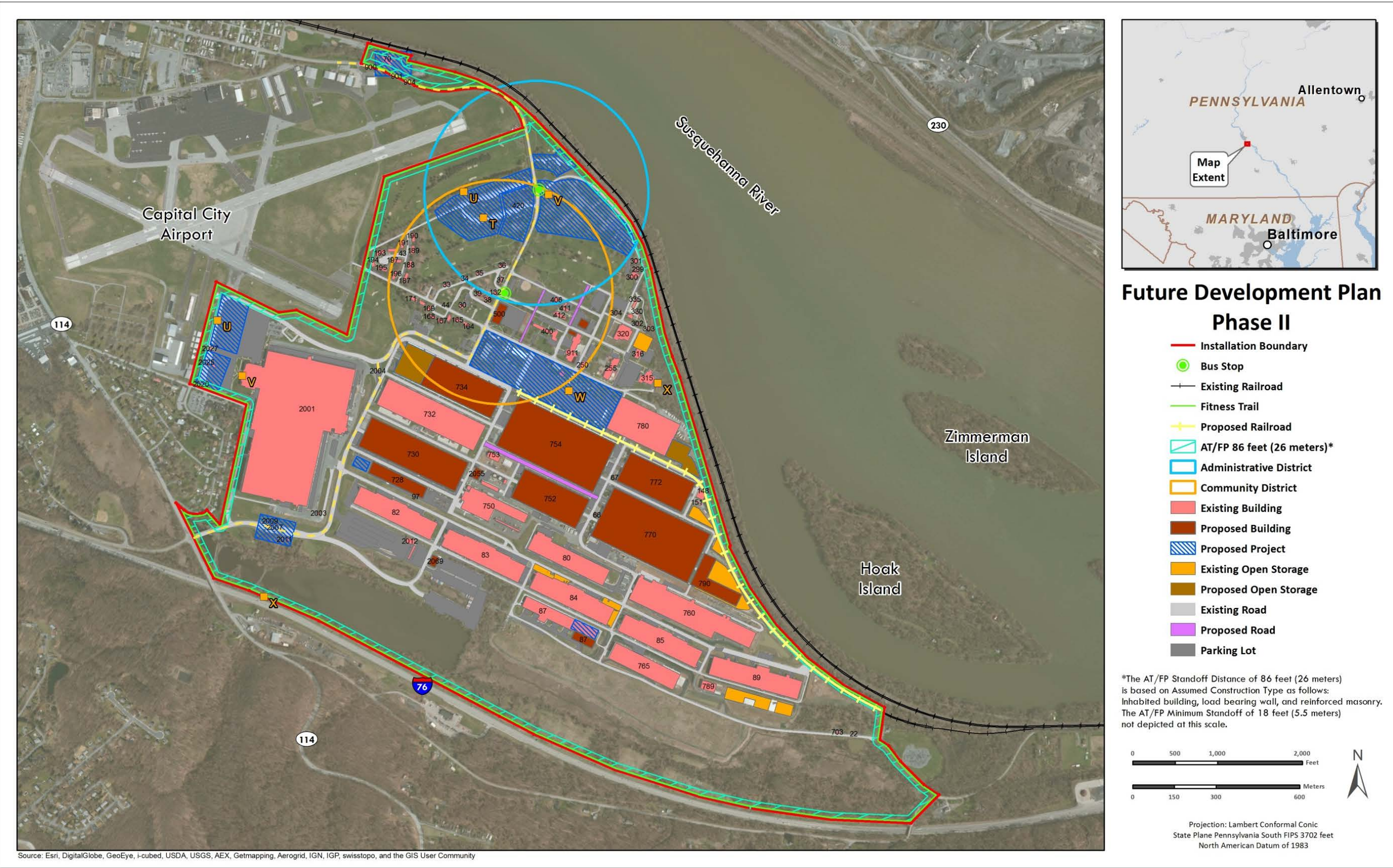


Figure 2.3 Locations of Future Development Plan MILCON Projects (Phase II)

*This page intentionally left blank.*





Implementing the projects in the RPMP would replace undersized and outdated buildings and infrastructure with modern, energy-efficient, sustainable buildings and infrastructure. The proposed projects include the construction of 4,201,966 square feet (ft<sup>2</sup>) of buildings and the demolition of 2,503,790 ft<sup>2</sup> of buildings, which would result in an increase in impervious surface and parking spaces (DLA 2013a). Additionally, the proposed projects include a transit and non-motorized transportation system consisting of two transit hubs; multiple bus stops; a variety of bus, pedestrian, and bicycle routes; and rail access to reduce truck conveyance.

### 2.1.2 Net-Zero Energy Plan

The NZEP balances the installation's future energy demand from buildings, industrial processes, fleet vehicles, and equipment with onsite and offsite renewable energy production. It provides a framework for the installation to develop a strategy to meet the applicable Federal mandates for sustainability, energy reduction, alternative energy and fuels, and systems integration. The NZEP includes energy reduction and fleet management recommendations and renewable energy projects through Fiscal Year 2040. The renewable energy projects include transpired solar collectors, a biomass power plant, and a solar photovoltaic project. One option in the Net-Zero Energy Plan includes siting the biomass power plant and a solar photovoltaic project at Defense Distribution Depot, San Joaquin to meet Defense Distribution Center, Susquehanna's renewable energy goals. The proposed projects include building energy-conservation measures, fleet vehicle reductions and replacements, equipment reductions and replacements, renewable energy development, microgrid development, and a measurement and verification program (see **Appendix A**). Implementation of the NZEP recommendations would result in energy reduction, fossil fuel reduction, and an increase in alternative fuel use; and would enable the installation to achieve a net-zero energy footprint (DLA 2013c).

### 2.1.3 Sustainability Plan

The SP provides a pathway for the installation to move toward compliance with relevant Federal mandates regarding sustainability. The SP identifies goals, objectives, and action plans that provide a strategy to meet the sustainability goals of the installation within the constraints of available staff and funding. The action plans cover several components of sustainability, including energy, renewable energy, water, waste, fossil and alternative fuels, high-performance buildings, indoor air quality, greenhouse gases, utility resilience and security, transportation, environmental management system, community planning, and measurement and verification (see **Appendix A**). Each action plan is tied to at least one of the goals or objectives and provides a quantifiable step in the overall sustainability program. The action plans are prioritized via a Capital Investment Strategy that leads to an Implementation Plan for the next 40 years. Implementation of the SP would allow the installation to increase its sustainability and meet or exceed relevant Federal sustainability mandates (DLA 2013b).

### 2.1.4 Integrated Natural Resources Management Plan

The INRMP is the installation's plan for managing its natural resources while ensuring the success of the military mission. It uses the concept of adaptive ecosystem management to maintain sustainable land use on the installation. The INRMP includes 31 proposed projects in the areas of ecosystem management; threatened and endangered species and species of concern; wetlands and waters of the United States; watershed management; fish and wildlife management; habitat management; exotic and invasive species management; grounds maintenance; natural resources law enforcement; outdoor recreation; and environmental awareness, education, and outreach (see **Appendix A**). These projects ensure minimal impact on the military mission while providing for the management and stewardship of natural resources and the conservation and enhancement of existing ecosystems on the installation. Implementation of the INRMP would support the DLA's continuing need to ensure the safety and efficiency of its mission while

practicing sound natural resources stewardship and complying with environmental policies and regulations (DLA 2013d).

### 2.1.5 Integrated Pest Management Plan

The IPMP is the installation's plan for its pest management program. It provides a sustainable approach to managing pests on the installation by using a combination of biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. The IPMP describes past and anticipated pests and outlines the resources necessary for surveillance and control of these pests including any administrative, safety, or environmental requirements. Nonchemical pest-control efforts are proposed to be used to the maximum extent possible prior to the application of pesticides. The IPMP includes pest management outlines that provide the methodology for the appropriate implementation of pest-control procedures for each identified pest type, a pesticide use proposal that identifies each pesticide proposed, and a 5-year plan for the administrative elements of the pest management program (see **Appendix A**). Implementation of the IPMP would reduce reliance on pesticides; enhance environmental protection; and help ensure pests don't interfere with the military mission, lower morale, damage real property, increase maintenance costs, or expose personnel to disease (DLA 2011a).

## 2.2 No Action Alternative

Under the No Action Alternative, DLA would not implement the RPMP or its component plans. In general, implementation of the No Action Alternative would require that the DLA continue to use the existing outdated, undersized, and inefficient facilities and abandon the proposed infrastructure enhancements, sustainability improvements, and natural resources projects of the component plans, which would hamper the ability of the installation to meet its current and future mission requirements. The No Action Alternative would not meet the purpose of and need for the action, as described in **Section 1.2**.

## 2.3 Alternatives Considered, Including Those Eliminated from Detailed Analysis

The RPMP included an evaluation of three alternatives (i.e., Alternatives A, B, and C) for consideration as the initial plan for land use at the installation. The three alternatives to development entail varying degrees of land use changes to accommodate future projects. Alternative A was selected as the preferred initial plan based on several criteria (e.g., mission, DLA initiatives, real property goals and objectives, security, infrastructure, and sustainability). Installation critical functions and sustainable practices were applied against Alternative A to create the Future Development Plan, which is the basis for the project locations and transportation-related MILCON projects in Future Development Plan (Phase II) presented in the RPMP. Alternatives B and C do not include project locations and would result in different transportation-related MILCON projects for Future Development Plan (Phase II) and substantial redevelopment and changes to land use areas. Consequently, Alternatives B and C are not fully fledged alternatives to the Future Development Plan and will not be analyzed in this EA.

### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

All environmental resource areas were initially evaluated for potential consequences. The initial evaluation determined that some environmental resource areas would not be impacted or would have clearly insignificant impacts. These environmental resource areas were not analyzed in detail in this EA, and they are described as follows.

- ***Socioeconomics and Environmental Justice.*** The Proposed Action would not affect areas outside of DLA-permitted land. It would not include hiring workers in the local labor force, and would not result in any outside workers moving to the area. There would be no change in the number of installation personnel, area population, or demand for housing and public/social services. The Proposed Action would not affect minority or low-income populations because implementation of the RPMP and its component plans would be limited to the installation.
- ***Cultural Resources.*** The Proposed Action would have no effect on any archaeological or architectural resources listed in or eligible for listing in the National Register of Historic Places (NRHP). There are no architectural resources at the installation that are listed or eligible for listing in the NRHP. Only one archaeological site at the installation has been determined eligible for listing in the NRHP, archaeological site 36YO0337. This resource, designated as being off limits for any activity apart from mowing, is located more than 1,400 feet outside of any of the proposed projects that would include ground disturbance.
- A portion of the adjacent Capital City Airport was determined eligible for listing in the NRHP. The closest areas of the installation from the historic-age terminal and hangars at the Capital City Airport are more than 2,000 feet distance. The installation has been characterized by warehouses, administrative buildings, and associated infrastructure since 1917. Therefore, based on the distance and the historic use of the installation, the siting and design of warehouses and other structures associated with the Proposed Action would have no effect on the NRHP-eligible historic district at the Capital City Airport. Additionally, the Proposed Action would have no effect on any modern sites of cultural significance to the community.
- ***Health and Safety.*** The Proposed Action would result in beneficial effects on health and safety from incorporation of current design standards and AT/FP criteria, addition of the AT/FP land use category along the installation boundary, consolidating administrative functions, and reductions in vehicle traffic due to several proposed transportation projects.
- ***Coastal Zone Management.*** The Proposed Action would not be sited within a coastal zone, nor would it impact a coastal zone.
- ***Visual and Aesthetic Resources.*** The Proposed Action would not involve any activities that would result in long-term changes to the aesthetic qualities of the area or landscape. The new facilities would follow the design guidelines in the Installation Design Guide, which is being updated. This guidance would ensure a consistent and coherent architectural character throughout the installation. Landscaping would be used to provide an attractive and professional-looking installation by using plants, shrubs, and trees to blend with the surrounding environment.

The initial evaluation also determined that there was the potential for significant effects on other environmental resource areas; therefore, these environmental resource areas were analyzed in detail in this EA. The detailed analysis in this EA determined that significant effects from the Proposed Action and No Action Alternative would not occur. The following sections break down by resource area the non-significant effects that would result from implementation of the Proposed Action.

## 3.1 Airspace Management and Safety

### 3.1.1 Existing Conditions

In compliance with the Federal Aviation Administration's Airport Design Regulations, each airport must have Runway Safety Areas (RSAs), Obstacle Free Zones (OFZs), and Runway Protection Zones (RPZs). A RSA is a defined surface surrounding the runway prepared for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. An OFZ is the airspace below 150 feet above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. RPZs are trapezoidal areas at ground level that begin 200 feet beyond the end of the runway area usable for takeoff and landing. These areas are used to enhance the safety and protection of people and property on the ground. It is the responsibility of the airport owner to protect the RSAs, OFZs, and RPZs from obstructions and incompatible land uses (U.S. DOT/FAA 2012). Also associated with RSAs and RPZs are the approach slopes, which are the paths that airplanes follow in their final approach and landing.

The Capital City Airport is adjacent to the northwestern boundary of the installation. The airport maintains two asphalt runways: Runway 08/26 and Runway 12/30 (DLA 2013a). Currently, only the RPZs and approach slopes for Runway 12/30 and Runway 08/26 extend onto the installation. The approach slopes adjacent to the RPZs rise at a 20:1 slope beginning 200 feet past the end of the runways. Warehouses 5 and 6, Buildings 12 and 14, and several poles are within the RPZ for Runway 12/30, but no facilities and structures are within the approach slope. These facilities and structures are considered to be obstructions by the Capital City Airport and, therefore, are equipped with obstruction lights. There are no facilities or structures on the installation within the RPZs or approach slopes for Runway 08/26 (DLA 2013a).

### 3.1.2 Environmental Consequences

#### *Proposed Action*

Long-term, minor, beneficial effects on airspace management and safety would occur. Future action by the Capital City Airport might include an updated approach surface for its runways that would have a slope of 34:1 based on the requirements outlined in the Federal Aviation Administration's Airport Design Advisory Circular (U.S. DOT/FAA 2012). Due to the proximity of Warehouses 5 and 6 to Runway 12/30, these buildings would not be in compliance with the updated approach surface. The RPMP proposes replacing Warehouses 5 and 6 with a new General Purpose Warehouse (Building 734). Based on an anticipated height of approximately 20 feet, the proposed warehouse would be sited approximately 600 feet from the west end of the existing warehouses. This siting would be outside of the modified approach surface (DLA 2013a). The RPMP also proposes to replace Buildings 12 and 14 with a new Communications Building (Building 2055), which would be outside of the RPZ for Runway 12/30. Lastly, implementation of effective wildlife management strategies in the INRMP would minimize the Bird/Wildlife Aircraft Strike Hazard risk for the Capital City Airport.

#### *No Action Alternative*

Existing conditions would remain the same as described in **Section 3.1.1**. Therefore, no effects on airspace management and safety would occur.

## 3.2 Land Use and Recreation

### 3.2.1 Existing Conditions

**Land Use.** Land use categories on the installation include Industrial (48 percent), Environmentally Sensitive Area (23 percent), Community (14 percent), Professional/Institutional (10 percent), Residential (4 percent), and Ranges & Training (less than 1 percent) (DLA 2013a). The general layout of the installation includes a large swath of Environmentally Sensitive Area along the southernmost boundary, followed by the Industrial zone through the central portion, and Community areas to the north. Interspersed within these three main areas are pockets of differing land uses with varying compatibility. Incompatible neighboring land uses currently on the installation include Residential and Industrial, Community and Industrial, Community and Ranges & Training, and Professional/Institutional and Ranges & Training (DLA 2013a). Incompatibility between specific installation land uses and adjacent off-installation areas include Community and Residential land use areas near the Capital City Airport.

Currently, there are 14 distinct land use areas in existence on the installation and eight instances of incompatible land use boundary interfaces. The two Residential land use areas lie within the Community land use area, with the southernmost Residential land use area adjacent to an Industrial land use area. There are four distinct areas of Professional/Institutional, two of which are located within the main Industrial land use area. The other two are located within the Community land use area, adjacent to Residential land use areas. Two small Industrial land use areas are located apart from the main Industrial land use area, and border Community and Professional/Institutional land use areas. Two Ranges & Training land use areas occur along the eastern border of the installation, with the southernmost being adjacent to the Environmentally Sensitive Area land use area and the northernmost occurring at an interface of Industrial, Community, and Professional/Institutional land use areas (DLA 2013a).

**Recreation.** Recreational opportunities on the installation include a fitness center, bowling alley, outdoor pool, baseball field, picnic area, walking/jogging path, fishing, and a golf course (i.e., Riverview Golf Course) with club house (DLA 2013a).

### 3.2.2 Environmental Consequences

#### *Proposed Action*

**Land Use.** Long-term, moderate, beneficial effects on land use would be expected. Implementation of the Future Land Use Plan (see **Figure 2.1**) would retain the six existing land use categories, but would consolidate land uses, minimize land use conflicts, expand the Industrial land use area, and add an AT/FP land use category around the perimeter of the installation. The projects in the RPMP and its component plans would be sited in appropriate land use areas in accordance with the Future Land Use Plan.

Under the RPMP, there would be a reduction in land use area fragmentation, compatible adjacent land use areas would be retained, and land use across the installation would become more cohesive, which would add greater functionality. The 14 distinct land use areas would be consolidated to 11 distinct land use areas. Most notably, the Professional/Institutional land use category, which is currently fragmented into four areas, would be consolidated into a single area. Implementation of the RPMP would maintain the proximity of Residential and Community land uses because adjacent Residential and Community land areas are not only acceptable, the close relationship of these two land uses is preferable. Incompatible land use boundary interfaces would be reduced from eight instances to six, with contact between Community and Industrial, and Community and Ranges & Training composing the remaining incompatible interfaces. The relationships between the three main areas of the installation would be largely unchanged.

Implementation of the RPMP would result in siting of land uses in a manner that fully considers the existing conditions and constraints of the installation to support current missions effectively while also

making the installation a more functional, easily navigable, and aesthetically pleasing place to work and live.

Changes in building sizes, types, and purposes coupled with the consolidation of buildings of similar purpose accompanying the proposed land use area streamlining would enable implementation of measures proposed in the NZEP and the SP. For example, new construction techniques, retrofitting initiatives, and metering individual buildings would help curb energy usage, enable energy audits, support the creation of energy use baselines, and ultimately support the ability to demonstrate that energy-reduction mandates would be met. Consolidation of core buildings supports the concept of establishing districts by function and purpose, and supports the feasibility of establishing a micro-grid concept in future years.

Implementation of the INRMP would result in greater guidance on the overall land use management objective and land use patterns would be enhanced through scrub and food plots and more suitable habitat for native species.

**Recreation.** Short-term, negligible, adverse and long-term, minor, beneficial effects on recreation would be expected. Implementation of the RPMP would retain the existing recreational opportunities within the installation; however, portions of the fairway and green for Hole 9 of the golf course would be altered slightly to accommodate construction associated with the proposed Headquarters Facility. Siting fitness trails within the AT/FP standoff along the installation boundary and pedestrian and bicycle networks between transit hubs, bus stops, and installation facilities would result in improved employee access to recreational facilities. Implementation of the INRMP would result in a basis to develop an aquatic habitat management program and establish limited-use buffers around water bodies, which would provide protection to aquatic habitats on the installation that are used for fishing.

### ***No Action Alternative***

Existing conditions would remain the same as described in **Section 3.2.1**. Therefore, no effects on land use and recreation would occur.

## **3.3 Noise**

### **3.3.1 Existing Conditions**

The ambient noise environment at the installation is affected primarily by aircraft noise and automobile, truck, and rail traffic. Given these sources, the ambient noise environment on the installation resembles an industrial setting. Typical daytime ambient noise levels in industrial areas are approximately 67 A-weighted decibels (Engineering Tool Box 2014).

Noise contours have not been completed for the Capital City Airport (DLA 2013a); however, based on the locations of the runways, it is assumed that some areas of the installation are within the airport's noise contours.

### **3.3.2 Environmental Consequences**

#### ***Proposed Action***

Long-term, minor, beneficial effects on the noise environment would be expected. The RPMP provides a Future Development Plan for the installation that includes design and siting features to reduce noise levels from future development. It is proposed that a small portion of land currently designated as residential would be modified for industrial use over the next 10 to 20 years for parking in the adjacent industrial area. This modification might increase noise in the existing residential areas; however, tree planting would be used as a noise buffer along specific areas to screen industrial areas from surrounding sensitive land uses.

### *No Action Alternative*

Existing conditions would remain as described in **Section 3.3.1**. Therefore, no effects on noise would occur.

## 3.4 Air Quality

### 3.4.1 Existing Conditions

York County has been designated by the U.S. Environmental Protection Agency (USEPA) as unclassified/attainment for the following criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter equal to or less than 10 microns in diameter, and lead. Particulate matter equal to or less than 2.5 microns in diameter is designated as nonattainment, and 8-hour ozone is designated as maintenance (formerly a Subpart 1 ozone nonattainment area) (USEPA 2013a).

The installation has a Title V operating permit (No. 67-05041). Air emissions from the installation are primarily produced from the burning of fuel oil No. 2 for heat and hot water, emergency generators, degreasing stations, and woodworking operations. The majority of the installation's air emissions come from the operation of the Central Heat Plant (PADEP 2010).

### 3.4.2 Environmental Consequences

#### *Proposed Action*

Long-term, minor, beneficial effects on air quality would occur. While full implementation of the RPMP would result in a net increase in building space at the installation, the RPMP would replace older and outdated buildings with modern, energy-efficient, sustainable buildings, which would translate into a potential reduction in air emissions. The RPMP encourages the future development of the installation around transit and non-motorized transportation systems. This type of development would reduce potential air emissions by discouraging personnel from driving to destinations and encouraging pedestrian, bicycle, and transit movement.

The NZEP and SP aim to reduce the amount of fossil fuel-based energy consumed at the installation and achieve a net-zero energy footprint. The NZEP and SP identify numerous actions such as reducing energy consumption, initiating fleet management strategies, and increasing reliance on renewable energy sources to accomplish these goals. Therefore, the implementation of the NZEP and SP would reduce fossil fuel energy consumption, which would reduce the amount of air emissions produced by the installation. Other action plans in the SP take aim at improving indoor air quality and reducing greenhouse gases.

#### *No Action Alternative*

Existing conditions would remain the same as described in **Section 3.4.1**. Therefore, no effects on air quality would occur.

## 3.5 Geological Resources

### 3.5.1 Existing Conditions

**Geology.** The installation straddles two major physiographic provinces. The northwestern 25 percent of the installation lies within the Great Valley section of the Appalachian Valley and Ridge physiographic province. The Great Valley section is wide, fertile lowland with minimal topographic relief and is primarily underlain with interbedded light-gray limestone and gray dolomite of the Epler Formation. The southeastern 75 percent of the installation lies within the Triassic Lowlands of the Piedmont

physiographic province, which is characterized by more relief and is underlain by red to brownish-red siltstone and shale with thin sandstone interbeds of the Gettysburg Formation. The boundary between the Epler and Gettysburg formations is defined by an unnamed fault (DLA 2007a, PA DCNR 2011, USGS 2014).

**Topography.** The area surrounding the installation is rolling to moderately hilly. Within the boundaries of the installation, the terrain contains slopes of less than 10 percent, trending toward the north and south away from the higher central administration and warehouse areas. The areas along the southeastern and southern boundaries of the installation are swampy lowlands that contain Marsh Run Pond and Creek. Escarpments along the Susquehanna River abruptly rise between 20 and 80 feet above the river's surface. The developed portions of the installation have been graded to accommodate past and current development (DLA 2007a).

Elevations at the installation range from approximately 300 feet above mean sea level (msl) along the Susquehanna River to 385 feet above msl in the central portions of the installation (USGS 2013).

**Soils.** Due to its highly urbanized landscape, much of the soil at the installation has been designated by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) as "Urban land" (USDA-NRCS 2014). This designation means that natural soil structure largely has been eliminated due to widespread man-made development and impervious surfaces. The NRCS does not provide a characteristics or engineering limitations summary for Urban land soil. Examination and identification of soils or soil-like materials in this mapping unit is impractical. Detailed onsite characterizations are necessary to determine potential uses and limitations of this mapping unit.

The only areas of natural soil structure remaining at the installation are found in areas with development restrictions in the southeast corner of the installation where the Bowmansville silt loam, Rowland silt loam, and the Penn silt loam, 3 to 8 percent slopes have been mapped (DLA 2007a). The Bowmansville and Penn soils are classified as farmland of statewide importance, while the Rowland soils are classified as prime farmland but not of statewide importance (USDA-NRCS 2014).

**Geologic Hazards.** The U.S. Geological Survey has classified the area associated with the installation as having a low potential for earthquake hazards. The region of the installation has a seismic hazard rating of approximately 8 to 16 percent gravity, meaning little or moderate damage to buildings would be expected during an earthquake that has a 2 percent chance of occurring during a 50-year period (USGS 2008). The fault zone associated with the boundary between the Epler and Gettysburg formations crosses the northern portion of the installation (see **Figure 3.1**).

## 3.5.2 Environmental Consequences

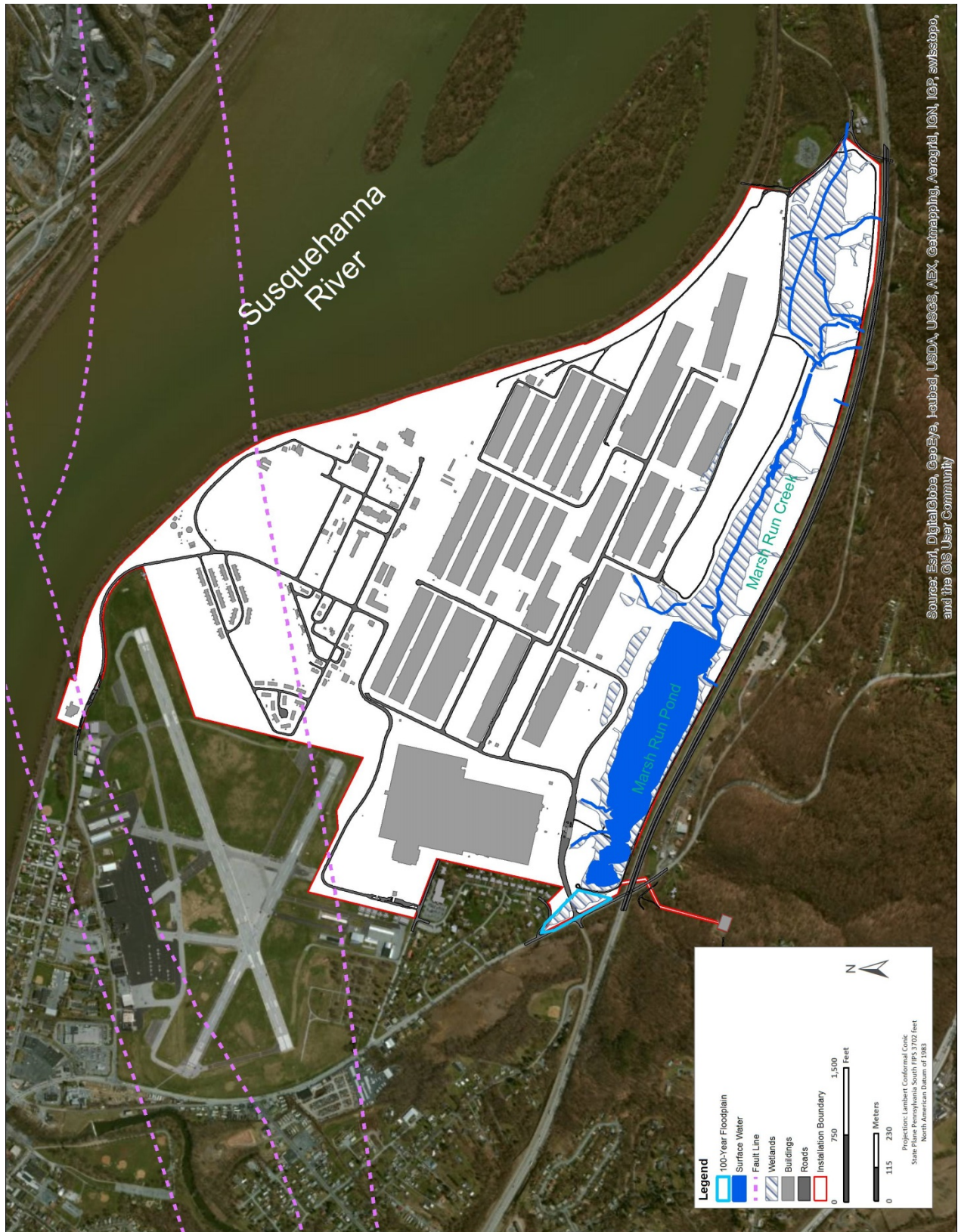
### *Proposed Action*

**Geology.** No effects on geology would be expected. No unique geological features or regional lithology, stratigraphy, or geological structure would be impacted by the Proposed Action.

**Topography.** Long-term, negligible, adverse effects on topography would occur. The proposed projects in the RPMP, NZEP, and SP would be in developed areas; therefore, minimal change in topography would be expected. Implementation of the IPMP and INRMP would occur throughout the installation but have no effect on topography because these projects would have little to no ground disturbance.

**Soils.** Long-term, minor, adverse effects on soils would be expected from implementation of the RPMP, NZEP, SP, and IPMP. All of these projects would be in areas underlain by Urban land soils, which have already been disturbed by previous activities. No designated farmland of statewide importance or prime farmland soils are within these proposed project areas. The timing of the projects, use of Best Management Practices (BMPs), and incorporation of soil erosion- and sediment-control measures into site plans would assist in limiting erosion and sediment production.





**Figure 3.1 Geological Hazards, Surface Waters, Floodplains, and Wetlands**

Long-term, minor, beneficial effects on soils would result from implementation of the INRMP. The INRMP includes a soil erosion and sedimentation program, monitoring of soil conditions to identify potential problem areas, soil conservation measures for exposed soils, and avoidance of activities likely to result in soil erosion, all of which would result in reduced impacts on soils and reduce soil erosion at the installation. Soil disturbance can be mitigated through timely seeding and revegetation.

**Geologic Hazards.** Long-term, minor, adverse effects could occur. Adverse effects on humans and property could occur as a result of differential settling of structures constructed over the unnamed fault that extends across the northern portion of the installation. Project A, New Headquarters Facility, of the RPMP would be sited adjacent to this fault. The seismic hazard rating in this area is very low; therefore, tectonic movement of the fault is not expected.

### **No Action Alternative**

Existing conditions would remain the same as described in **Section 3.5.1**. Therefore, no effects on geological resources would occur.

## **3.6 Water Resources**

### **3.6.1 Existing Conditions**

**Surface Water.** The Susquehanna River and Marsh Run Creek are the primary surface water features at and near the installation. The installation is bordered to the north and to the east by the Susquehanna River. Marsh Run Creek flows parallel to the southern boundary of the installation before discharging into the Susquehanna River. A section of Marsh Run Creek within the installation boundary was dammed by the U.S. Army Corps of Engineers in the 1960s, forming Marsh Run Pond. Most surface water at the installation drains from the higher elevations in the center of the installation to Marsh Run Creek and Pond; however, the northern cantonment area drains to the north and east directly into the Susquehanna River. **Figure 3.1** illustrates the locations of surface water at and near the installation.

The installation has two National Pollutant Discharge Elimination System (NPDES) permits: one associated with the treated effluent from the wastewater treatment plant (WWTP) and one for storm water. Treated effluent from the WWTP is discharged to the Susquehanna River. The existing WWTP is not able to conform to pending Pennsylvania Department of Environmental Protection (PADEP) Chesapeake Bay Tributary Strategy nutrient reduction discharge limit requirements. Storm water for the installation is discharged to the Susquehanna River and Marsh Run (DLA 2007b).

**Groundwater.** The installation overlies the Valley and Ridge aquifer, which is not a sole-source aquifer for the region. Groundwater flow moves radially away from a recharge area located in the northeastern portion of the installation. Groundwater flow is toward the Susquehanna River in the north and east portions of the installation, toward Marsh Run Creek in the south and southwestern portions of the installation, and toward Yellow Breeches Creek in the western portions of the installation. Depth to groundwater ranges from less than 1 foot below ground surface in the vicinity of Marsh Run Creek to approximately 30 feet below ground surface in the administration area (DLA 2013e).

Past releases of hazardous substances have resulted in areas of groundwater contamination within and adjacent to the installation. Groundwater contamination is monitored and evaluated across the installation via approximately 120 monitoring wells. The majority of the installation is within groundwater use restriction areas. The groundwater use restrictions are associated with several Installation Restoration Program (IRP) sites where groundwater contamination has been confirmed; however, all of the IRP sites are closed and under no further action status. The institutional controls are implemented to prevent the potential future use of groundwater for potable purposes.

**Floodplains.** Approximately 3 acres in the southwestern portion of the installation are located within the 100-year floodplain. **Figure 3.1** illustrates the 100-year floodplain areas on the installation.

## 3.6.2 Environmental Consequences

### *Proposed Action*

**Surface Water.** Long-term, minor, beneficial effects on surface water would be expected. The overall increase in impervious surface proposed under the RPMP would result in increased storm water runoff, which could adversely affect surface water. However, the increased runoff would be managed through the implementation of storm water initiatives presented in the SP, such as rainwater harvesting, storm water capture ponds, and rain gardens (DLA 2013b). Furthermore, LID features would be used to adhere to Section 438 of the Energy Independence and Security Act (EISA) so that post-development hydrology would be equal to or less than pre-development hydrology to the extent technically feasible. Reduction in storm water volume and overland flow would result in offsetting effects for installation and local surface waters.

The proposed WWTP would be designed to comply with PADEP Chesapeake Bay Tributary Strategy nutrient reduction discharge limit and NPDES permit requirements (DLA 2013b), which would improve the quality of the effluent discharged to the Susquehanna River. The siting and design of the projects in the RPMP would require revisions to the NPDES permits for the WWTP and storm water discharges.

The establishment of riparian buffers, as proposed in the INRMP, would reduce nonpoint source impacts associated with runoff and adjacent land uses.

**Groundwater.** Long-term, minor, adverse effects on groundwater would be expected. The overall increase in impervious surface proposed under the RPMP would reduce available acreage for infiltration and recharge of groundwater. However, adverse effects from the increase in impervious surface would be minimized through the use of LID practices and by employing long-term storm water-control measures for groundwater recharge in accordance with Section 438 of EISA. In addition, implementation of WTR12, Storm Water Capture Ponds, and WTR13, Rain Gardens as outlined in the SP, would enhance percolation and reduce storm water runoff (DLA 2013b).

The expansion of industrial activity on the installation has the potential for release of hazardous substances to groundwater; however, BMPs and use of the Pollution Prevention and Hazardous Waste Minimization Plan would prevent any releases from negatively impacting the environment (DLA 2011b).

**Floodplains.** No effects on floodplains would be expected. The goals of the INRMP include no net loss of floodplain acreage, and none of the projects proposed in the RPMP and its component plans would be sited within the floodplain.

### *No Action Alternative*

Existing conditions would remain as described in **Section 3.6.1**. Therefore, no effects on water resources would occur.

## 3.7 Biological Resources

### 3.7.1 Existing Conditions

**Vegetation.** The majority of the installation is developed. Undeveloped areas are primarily within the southern portion, along Marsh Run Creek, where vegetation consists of deciduous forests and vegetation associated with wetlands. Vegetation in the developed portions of the installation consists of maintained turf grass, shrubs and trees, and plant communities typical of landscaped species (DLA 2009a).

**Wildlife.** Few wildlife species are found on and in the vicinity of the installation, and their habitat is limited because the majority of the installation is developed. The remaining undeveloped portions consist of water features and second-growth forest. Wildlife species known to occur on the installation generally include species that are adapted to human development and activities that impact natural resources (DLA 2009a).

**Protected Species.** Protected species include federally listed species, state-listed species, migratory birds, and plant species of concern. Based on informal consultations with the U.S. Fish and Wildlife Service (USFWS) and the state agencies during the development of the installation's INRMP, *Ellisia nyctelea*, eastern prickly pear cactus (*Opuntia humifusa*), and the bog turtle (*Glyptemys muhlenbergii*) have the potential to occur on the installation. *Ellisia* is state-listed as threatened and eastern prickly pear cactus is state-listed as rare. The bog turtle is federally listed threatened and state-listed endangered. There is one known bald eagle nest near the installation but given the installation's proximity to the Susquehanna River, additional nests might be present or could appear in the future. Communal roosting areas or foraging areas might also exist along the Susquehanna River (USFWS 2012).

**Wetlands.** There is a total of 95.95 acres of wetlands on the installation. Ten wetland areas measuring 95.35 acres are on the southern portion of the installation adjacent to Marsh Run Creek (USACE 1998), and two wetland areas composing 0.6 acres are adjacent to the intersection of Sixth Street and Marsh Run Road. **Figure 3.1** illustrates the wetlands on the installation.

### 3.7.2 Environmental Consequences

#### *Proposed Action*

**Vegetation.** Long-term, minor, beneficial effects on vegetation would be expected. The proposed projects in the RPMP would be sited in the developed areas of the installation and are not expected to result in a loss of native vegetation. The INRMP projects, such as updating the flora inventory every 3 to 5 years, daylighting desired trees, and nonnative and invasive plant species eradication, would facilitate proper management of installation vegetation. Additional management measures established to protect or enhance aquatic and riparian habitats include eradicating invasive and nonnative plant species and minimizing erosion and sedimentation. As outlined in the SP, maximizing tree planting and open space while minimizing paved surfaces would reduce the heat island effect and enhance natural habitat on the installation.

**Wildlife.** Long-term, minor, beneficial effects on wildlife species and their habitat would be expected. There is a lack of suitable habitat and native wildlife in the areas where the RPMP projects would be sited. Several projects described in the INRMP would be implemented to survey or inventory wildlife on the installation. Information obtained from these efforts would help installation personnel manage wildlife resources. Assessment of wildlife populations at the installation (e.g., birds, small mammals, and herptiles) would provide a baseline that can be used in tracking conditions and trends, which would allow management practices to be applied where and when needed.

**Protected Species.** Long-term, minor, beneficial effects on protected species would be expected. The projects identified in the RPMP would be sited in areas that are previously disturbed and developed with no suitable habitat for the listed species with the potential to occur on the installation. No projects would be sited in bald eagle roosting or foraging areas. As part of the Threatened and Endangered Species objectives and projects, surveys for sensitive species and migratory bird nests would be conducted. Implementation of formal management plans and routine assessments and monitoring of these special status species provide protection of these species and a baseline of data that can be used to prioritize projects and identify efficient allocation of resources. The IPMP periodically evaluates ongoing and proposed pest-control operations to ensure compliance with the Endangered Species Act.

No adverse effects on migratory birds would be expected. Due to the lack of natural vegetation and surface waters where the RPMP projects would be sited, it is unlikely that migratory birds would use these areas as breeding or migratory habitat.

**Wetlands.** Long-term, minor, beneficial effects on wetlands would be expected. None of the projects identified in the RPMP would be sited within or adjacent to wetlands. The proposed projects would result in an increase in impervious surface; however, the resulting increase in run off would not flow directly into delineated wetlands. The INRMP projects, such as updating the wetland inventory data and monitoring impacts of training activities on wetlands, would provide installation personnel with information that would facilitate proper management of wetlands. The IPMP is a guide to reduce reliance on pesticides and to enhance environmental protection including measures to avoid sensitive areas (i.e., wetlands).

### **No Action Alternative**

Existing conditions would remain the same as described in **Section 3.7.1**. Therefore, no effects on biological resources would occur. The No Action Alternative does not provide for the formal implementation of a routine habitat assessment and monitoring program. The health and condition of the wildlife populations would not improve, and management measures to increase the abundance and biodiversity of wildlife would not be implemented. In addition, management measures designed to protect and enhance wildlife habitats (i.e., aquatic, riparian, wetlands, terrestrial) would not be implemented, thereby allowing for a continuing decline in the quality and complexity of the habitats. The No Action Alternative does not establish routine management measures to protect and enhance these habitats by preventing or minimizing potential impacts.

## **3.8 Transportation and Infrastructure**

### **3.8.1 Existing Conditions**

**Transportation System.** The installation has three active access control points (ACPs), two for automobile traffic (i.e., Posts 1 and 3) and one for trucks (i.e., Post 4). The primary installation roads include Mifflin Avenue, Mission Drive, and H Avenue. A parking study performed for the northern portion of the installation found that 73 percent of parking spaces were used (DLA 2013f).

Transportation options to and within the installation include privately owned vehicles, city provided transit, van pools, school bussing, bicycling, and foot traffic. Approximately 7 percent of employees commute to work using car/van pools or public transit. There is no contiguous bicycle/walking route within the installation. Currently, the installation has a total of 223 vehicles in the General Services Administration fleet and 18 non-tactical vehicles associated with morale, welfare, and recreation (DLA 2013a, DLA 2013b).

**Electrical System.** The installation's electrical distribution system consists of overhead and underground lines that have adequate capacity for the installation's current and future demand; however, much of the system is aged and redundancy is needed for one of the circuits. Generators installed at selected buildings allow critical operations to continue during outages (DLA 2013a). In 2012, the installation used 227,320 million British thermal units (MMBtu) of electrical power (DLA 2013c).

**Natural Gas System.** Natural gas service is available only within the northern portion of the installation. The current capacity of the natural gas system at the installation is adequate (DLA 2013a). In 2012, the installation used 15,186 MMBtu of natural gas (DLA 2013c).

**Liquid Fuel System.** Fuel oil is used by the Central Heat Plant to provide steam heat to the southern portion of the installation. Fuel oil is also used to heat several other buildings within the installation that are not connected to the steam heat system. Propane is used in industrial operations, cooking, and to heat

some buildings. Gasoline and diesel fuel are used to fuel the installation's vehicles (DLA 2013b). In 2012, the installation used 204,015 MMBtu of fuel oil No. 2 and 430 MMBtu of propane. In 2011, the installation used 10,148 MMBtu of unleaded gasoline and 15,234 MMBtu of diesel fuel.

**Potable Water System.** Potable water is delivered to the installation from a treatment plant with 10 million gallons per day (GPD) of capacity (DLA 2013a). Average annual potable water consumption at the installation is approximately 170,000 GPD. The water distribution system at the installation generally follows the streets and roads throughout the installation. Pipe materials include cast iron, ductile iron, asbestos-cement, and copper. The installation has a 1-million-gallon, potable-water emergency-use reservoir at an off-installation location to store water for fire demands and emergency reserves. The reservoir and piping are nearly 70 years old (DLA 2013b).

**Sanitary Sewer and Wastewater System.** The installation operates a sanitary wastewater collection and treatment system. The installation's WWTP is aged. The permitted capacity of the WWTP is 800,000 GPD; however, the average flow to the WWTP is approximately 100,000 GPD (DLA 2013a). The existing WWTP is not able to conform to pending PADEP Chesapeake Bay Tributary Strategy nutrient reduction discharge limit requirements.

**Communications System.** The telephone and telecommunications network consists of a central office and distribution lines. Building 14 serves as the main communications station with Buildings 12 and 54 serving lesser roles (DLA 2013a). Building 14 is operating under a waiver because it is in the flight path of the adjacent Capital City Airport (DLA 2012a).

**Solid Waste Management.** Solid waste generated at the installation is transported off site and disposed of at a landfill. Solid waste is handled in keeping with the installation's Integrated Contingency Plan, incorporating source reduction, reuse, recycling, green procurement, and other appropriate and complementary principles to minimize the quantity of solid waste generated (DLA 2011b).

**Storm Water System.** Storm water on the installation is managed through a system of catch basins, pipes, outfalls, and ponds (DLA 2013b). The storm water drainage system is divided by a ridgeline that runs east to west near and along J Avenue. The northern section drains to the Susquehanna River and the southern section drains to Marsh Run. Conveyance of the current storm water drainage system has proven adequate for the frequency and duration of most storms experienced in the area (DLA 2013a).

## 3.8.2 Environmental Consequences

### *Proposed Action*

**Transportation System.** Long-term, moderate, beneficial effects on the transportation system would be expected. Transportation infrastructure would be improved with the siting of three new roads proposed in the RPMP, and planned improvements of the ACPs. Two roads would connect G and H Avenues and connect G Avenue to the golf course to provide greater access to recreational points. The third road would run parallel to M and J Avenues to provide an alternate route for vehicles traveling through the industrial area from northwest to southeast. The creation of additional parking would result in a net increase of 512 parking spaces on the installation (DLA 2013a). The RPMP includes two transit hubs, numerous bus stops, and pedestrian and bicycle routes granting improved access to all areas of the installation (DLA 2013a). Such improvements would reduce truck and automobile traffic and mitigate congestion. Pedestrian and bicycle networks between transit hubs, bus stops, and installation facilities would result in improved employee access to recreational facilities.

**Electrical System.** Long-term, moderate, beneficial effects on electrical systems would be expected. Implementation of the RPMP would result in the addition of approximately 1.7 million ft<sup>2</sup> of building area, most of which would consist of warehouse space. With this increase in building area, a correlating increase in electrical energy demand would be expected. However, implementation of the NZEP and SP would result in buildings and infrastructure being designed to maximize efficiency and minimize demand.

Additionally, the NZEP guides the installation toward self-sufficiency and positions the installation for development of a microgrid, transpired solar collectors, and a biomass plant (DLA 2013c), potentially eliminating reliance on the installation's current commercial utility provider.

**Natural Gas System.** Long-term, minor, adverse effects on natural gas would be expected. The increase in building area from implementation of the RPMP would result in a correlated increase in heating energy requirements. The NZEP indicates that natural gas would eventually become the fuel of choice for heating, replacing fuel oil No. 2 and resulting in an increased demand for natural gas. However, implementation of the NZEP would result in buildings designed to maximize efficiency and minimize demand, partially offsetting the increase in demand for natural gas.

**Liquid Fuel System.** Long-term, minor, beneficial effects on liquid fuels would be expected. The NZEP indicates that natural gas would eventually become the fuel of choice for heating, replacing fuel oil No. 2. Recommendations contained in the NZEP include increased use of propane/electrical powered forklifts; decreased use of gasoline-powered forklifts; consideration for alternative fuel vehicles; and optimized vehicle fleets. Implementation of these recommendations would result in a decreased demand for fuel oil, diesel fuel, and gasoline, and a slight increase in demand for propane.

**Potable Water System.** Long-term, moderate, beneficial effects on potable water supply and delivery would be expected. The upgraded distribution system would assist in attaining the goals stated in the SP to improve water storage while maintaining distribution system integrity and increasing available pressure to fire suppression systems. The proposed SP goal of attaining LEED Silver certification on new construction would provide a beneficial water consumption decrease over time. RPMP Project F proposes to replace the existing ground level reservoir with a new elevated reservoir, which would provide a water storage capacity of 750,000 gallons (DLA 2012b, DLA 2013b). The proposed reservoir would be secured within the installation's boundary, which would make it more secure than the current reservoir. Actions plans in the SP include water-efficient landscaping plant selection, water-efficient irrigation systems, and rooftop water harvesting and cistern collection for toilet flushing and irrigation.

**Sanitary Sewer and Wastewater System.** Long-term, moderate, beneficial effects on the sanitary sewer and wastewater systems would be expected. The RPMP construction projects would incorporate sustainable building and planning principles, maximizing efficiency and minimizing demand. Additionally, replacing the installation's WWTP would result in a more efficient and resilient system. Actions plans in the SP include water-efficient plumbing fixtures, treated wastewater reuse for irrigation, and gray water use for toilet flushing and irrigation.

**Communications System.** Long-term, moderate, beneficial effects on communications systems would be expected. The RPMP includes projects to improve communication facilities and equipment, which would result in a more reliable, more secure, and more resilient system. The new communications building would be located outside of Capital City Airport's flight path. Communications infrastructure would be incorporated into new facilities, and existing communications capacity would not be exceeded by demand.

**Solid Waste Management.** Long-term, minor, beneficial effects on solid waste management would be expected. The SP includes several action plans that would reduce and improve the management of solid waste.

**Storm Water System.** Long-term, minor, adverse effects on storm water would be expected. Implementation of the RPMP would result in increased impervious surface area. However, the increased run off would be managed through the implementation of storm water initiatives presented in the SP, such as rainwater harvesting, storm water capture ponds, and rain gardens (DLA 2013b). Furthermore, LID features would be used to adhere to Section 438 of the EISA so that post-development hydrology would be equal to or less than pre-development hydrology to the extent technically feasible.

## No Action Alternative

Existing conditions would remain the same as described in **Section 3.8.1**. Therefore, no effects on transportation and infrastructure would occur.

## 3.9 Hazardous Materials and Wastes

### 3.9.1 Existing Conditions

**Hazardous Materials, Hazardous Wastes, and Petroleum Products.** The installation's Pollution Prevention and Hazardous Waste Minimization Plan addresses required pollution prevention and hazardous waste minimization requirements applicable to the installation (DLA 2011b). Buildings 53 and 87 are the primary hazardous materials storage locations for the installation (DLA 2009b).

**Environmental Restoration Program.** There are 63 environmental sites (i.e., solid waste management units [SWMUs], areas of concern [AOCs], and IRP sites) at the installation. Fifty of the environmental sites were determined to require no further action (DLA 2010). The remaining 13 environmental sites have been closed; however, groundwater monitoring is being conducted for environmental sites SWMU No. 6, SWMU No. 17, SWMU No. 42, AOC N, and IRP site 63; and land use controls are in place due to residual soil contamination for environmental sites SWMU No. 17 and AOC N (see **Figure 3.2**). The majority of the southern and central portions of the installation are within groundwater use restriction areas due to groundwater contamination. There are no Military Munitions Response Program sites at the installation (DLA 2013a, DLA 2013e).

**Asbestos-Containing Material.** Facilities constructed prior to 1980 are assumed to contain asbestos-containing materials (ACMs). Most of the buildings associated with the projects in the RPMP were constructed prior to 1980. There are no suspected ACM disposal areas within the installation.

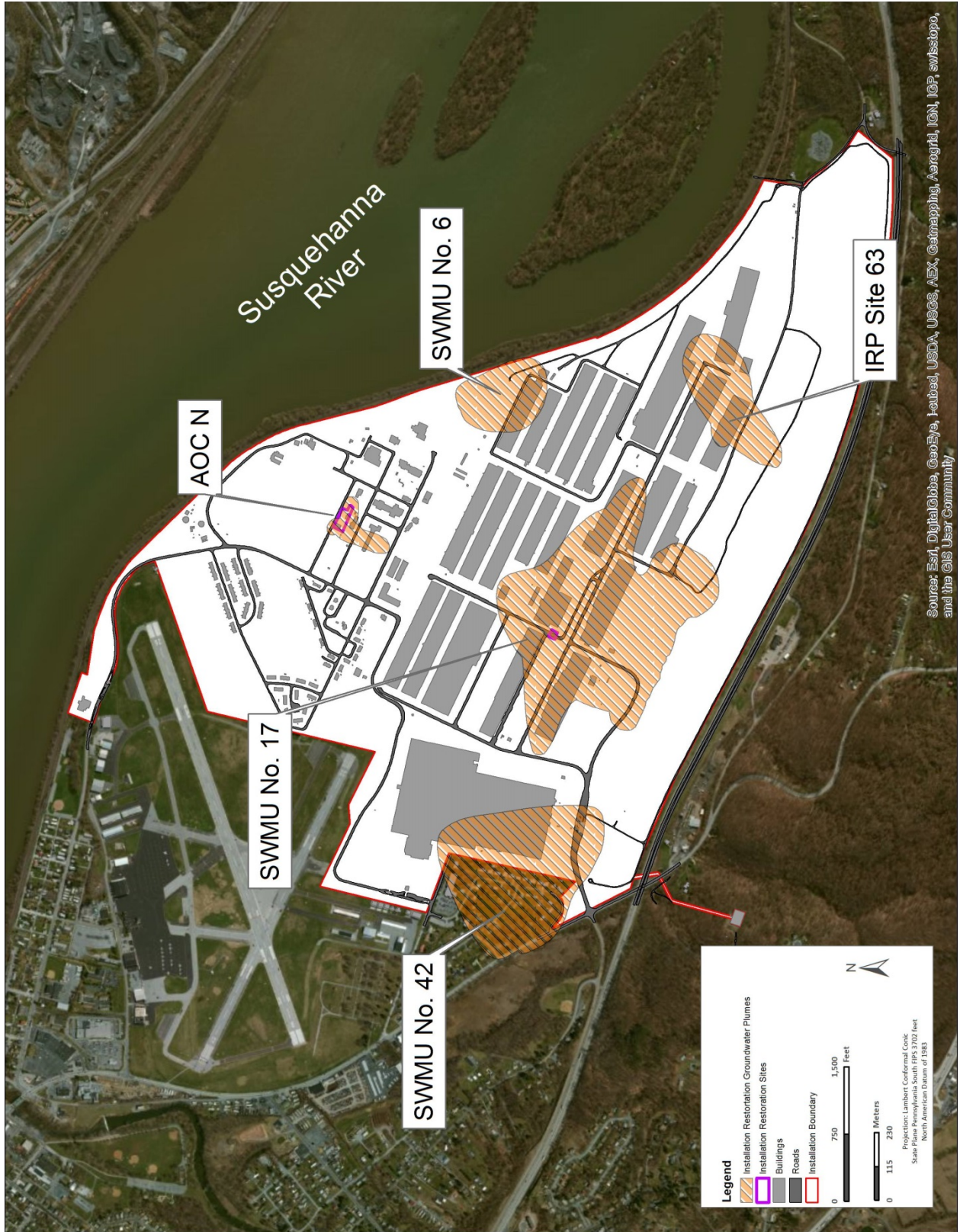
**Lead-Based Paint.** The use of most lead-based paint (LBP) was banned in 1978; hence, all buildings constructed prior to 1978 are assumed to contain LBP. Most of the buildings associated with the projects in the RPMP were constructed prior to 1978. There are no suspected LBP disposal areas within the installation.

**Polychlorinated Biphenyls.** All polychlorinated biphenyl (PCB)-containing transformers have been removed from the installation; however, PCB-containing fluorescent light ballasts and other PCB-containing equipment might be present within buildings associated with the projects in the RPMP.

**Pesticides.** The installation uses an integrated pest management approach to pest control to minimize the types and quantities of pesticides used at the installation. Least-toxic chemical controls are used, where appropriate. Pesticides at the installation are stored at Building 151. Pesticide application is conducted by Pest Management personnel who follow a general policy of evaluating the need for chemical application prior to spraying.

**Radon.** The USEPA rates York County, Pennsylvania, as a Federal Radon Zone 1. Zone 1 counties have the highest radon potential and a predicted average indoor radon screening level greater than 4 pCi/L per liter (pCi/L) (USEPA 2013b). The USEPA has a guidance radon level of 4 pCi/L in indoor air for residences; however, there have been no standards established for commercial structures.





Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AEX, Getmapping, Aergrid, IGN, IGP, swisstopo, and the GIS User Community

**Figure 3.2 Installation Restoration Sites with Groundwater Monitoring or Land Use Controls**

## 3.9.2 Environmental Consequences

### *Proposed Action*

***Hazardous Materials, Hazardous Wastes, and Petroleum Products.*** Long-term, minor, beneficial effects would be expected. As noted in **Table 2.1**, one new warehouse would replace two or three older warehouses; therefore, use, storage, and generation of hazardous substances could be consolidated. Building 87, the hazardous materials warehouse, would be upgraded and expanded, which would allow for better storage of hazardous materials. Actions in the NZEP and SP would reduce the storage and consumption of petroleum products.

***Environmental Restoration Program.*** No effects on the environmental restoration program would be expected. None of the RPMP projects would be sited within areas with land use controls; however, several of the RPMP projects would be sited within areas undergoing groundwater monitoring. Proposed projects would avoid existing groundwater monitoring wells.

***Asbestos-Containing Material.*** Long-term, minor, beneficial effects would be expected. Implementation of the RPMP would remove older buildings, which are more likely to contain ACMs, from the installation and replace them with newer buildings, which would be designed to be free of ACMs. The removal of ACMs from the installation would be beneficial in that there would be an overall decrease in these materials.

***Lead-Based Paint.*** Long-term, minor, beneficial effects would be expected. Implementation of the RPMP would replace buildings assumed to contain LBP (i.e., those constructed prior to 1978) with newer buildings that would not contain LBP. The removal of LBP would be beneficial in that there would be a decrease in these materials on the installation.

***Polychlorinated Biphenyls.*** Long-term, minor, beneficial effects would be expected. Implementation of the RPMP would replace buildings that might have PCB-containing equipment with newer buildings that would not have PCB-containing equipment. The removal of PCBs would be beneficial in that there would be a decrease in these materials on the installation.

***Pesticides.*** Long-term, minor, beneficial effects would be expected. Implementation of the IPMP would reduce reliance on pesticides, ensure that pest management equipment is programmed for replacement, and include the construction of a pesticide mixing and equipment storage hardstand at the golf course maintenance shop.

***Radon.*** No effects from radon would be expected. The installation would use existing radon testing information or conduct radon testing to confirm the radon levels at the various project locations. If the testing results were to confirm radon at concentrations above 4 pCi/L, the new buildings would be designed to include appropriate radon-control infrastructure to limit the potential for indoor radon accumulation.

### *No Action Alternative*

Existing conditions would remain the same as described in **Section 3.9.1**. Therefore, no effects on hazardous materials and waste would occur.

## 4.0 CUMULATIVE AND OTHER EFFECTS

### 4.1 Cumulative Effects

Cumulative effects are the incremental effects of a proposed action when added to the aggregate effects of other past, present, and reasonably foreseeable future actions. For this analysis, the temporal span of the Proposed Action is 20 to 30 years and the spatial area of consideration is the installation and surrounding region.

For most resource areas, the present effects of past actions are now part of the existing environment described in **Chapter 3**. Identification of projects occurring at and nearby the installation during the same time as the Proposed Action ensures that all present and reasonably foreseeable future activities that have the potential to result in cumulative effects are taken into account. The present and reasonably foreseeable future actions identified for this cumulative effects analysis are the following:

- Widen Interstate (I)-76 from two to three lanes in each direction between the Susquehanna River Bridge and Exit 242.
- Construct an additional travel lane for northbound I-83 through the interchange with Highway 581.
- Construct a 12-inch natural gas pipeline under the Susquehanna River from Steelton, Pennsylvania, to the installation to provide natural gas service. The installation would also add several smaller natural gas pipes and replace several fuel oil No. 2 burners with dual-fuel burners.

The Proposed Action, when combined with past, present, and reasonably foreseeable future projects, would not result in cumulatively significant effects on any resource area. The resource areas that have the potential to be cumulatively affected are presented in the paragraphs below. These paragraphs describe the non-significant cumulative effects that would occur.

***Airspace Management and Safety.*** Future development at the installation and surrounding region would be sited and designed to meet the RSAs, OFZs, RPZs, and approach surfaces of the Capital City Airport.

***Land Use and Recreation.*** Future development at the installation would be sited and designed according to the land use categories in the installation's RPMP, and future development off-installation would be sited and designed according to local zoning and planning regulations. Holes 5, 6, 14, and 15 of the golf course would be closed temporarily during the construction period for the natural gas pipeline.

***Noise.*** A temporary cumulative increase in noise would occur from construction, demolition, and land-disturbing activities but would be limited to the areas adjacent to the work areas. Sensitive noise receptors, such as homes and schools, are not expected to be affected.

***Air Quality.*** Temporary increases in air emissions would occur from the use of construction equipment. Permanent increases in air emissions would occur from new stationary air emissions sources; however, the removal of existing stationary air emissions sources would permanently reduce air emissions.

***Geological Resources.*** Increased erosion and sedimentation during excavation, grading, and filling would be possible. Adverse effects would be limited because the region surrounding the installation is heavily urbanized and most soils have already been disturbed by past activities.

***Water Resources.*** Added impervious surfaces would increase the amount of storm water runoff and reduce the amount of surface area available for groundwater recharge. LID and storm water management techniques would be implemented to minimize storm water runoff.

***Biological Resources.*** Cumulative effects on vegetation, wildlife, and protected species would be limited due to the highly urbanized area and the minimal amount of vegetation, wildlife habitat, and habitat capable of supporting protected species surrounding the installation.

**Transportation and Infrastructure.** Widening portions of I-76 and I-83 would improve traffic flow, alleviate traffic congestion, and improve transportation infrastructure throughout the region. Expansion of natural gas service to the installation would provide another source of energy for the installation.

**Hazardous Materials and Wastes.** Construction activities would result in a temporary increase in the generation of hazardous wastes. Reductions in the amount of fuel oil No. 2 used at the installation would also occur due to the change to natural gas as the primary fuel for the Central Heat Plant.

## 4.2 Unavoidable Adverse Effects

Unavoidable adverse effects would occur if the Proposed Action was implemented. Adverse effects that potentially could not be avoided include temporary disruptions to Hole 9 of the golf course, the potential for differential settling of structures sited adjacent to the fault line, disturbance of topographic and soil characteristics, increased storm water runoff and reduced groundwater infiltration from the added impervious surface, and increased natural gas consumption. Each of these effects is discussed in detail in **Sections 3.1** through **3.9**. None of these effects would be significant.

## 4.3 Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

Implementation of the installation's RPMP and its component plans would not result in any significant or incompatible land use changes on- or off-installation. The RPMP and its component plans consider the installation's existing conditions and constraints in the siting, design, and timing of the projects proposed within these plans. The Proposed Action would not conflict with designated RSAs, OFZs, RPZs, and approach surfaces of the Capital City Airport or any applicable off-installation land use ordinances.

## 4.4 Relationship Between Short-term Uses of Man's Environment and Maintenance and Enhancement of Long-term Productivity

The short-term effects of the Proposed Action include disruptions to Hole 9 of the golf course. Long-term effects include siting proposed facilities in accordance with the latest air space and land use regulations, encouraging the use of alternative forms of transportation, implementing sustainability actions to reduce energy consumption, modernizing utility infrastructure, and establishing appropriate natural resources management processes.

## 4.5 Irreversible and Irrecoverable Commitment of Resources

The Proposed Action would not involve the irreversible and irretrievable commitment of energy resources and human resources. The Proposed Action would result in the commitment of land for the siting of the future proposed facilities. The effects of this commitment would be permanent but not significant.

## 4.6 Energy Requirements and Conservation Potential

The Proposed Action would not involve the direct consumption of energy. The Proposed Action would increase energy consumption from the net increase in building space, but it would also reduce energy consumption by replacing older and outdated buildings with modern, energy-efficient, sustainable buildings. The installation's NZEP and SP would reduce the amount of energy consumed at the installation and encourage the use of energy from renewable, non-fossil-fuel-based sources. The installation would achieve a net-zero energy footprint after full implementation of the NZEP in 20 to 30 years.

## 4.7 Natural or Depletable Resource Requirements and Conservation Potential

The Proposed Action would require no significant use of natural or depletable resources.

## 5.0 CONCLUSION

The introduction to **Section 3** provides information on which resource areas were selected to be analyzed in detail in the EA and the rationale behind each decision. **Table 5.1** summarizes the potential impacts of the Proposed Action and the No Action Alternative on the environmental resource areas analyzed in detail. Implementation of the Proposed Action or No Action Alternative would not result in any individual or cumulatively significant environmental impacts. Therefore, preparation of an EIS is not warranted and issuance of a FONSI would be appropriate.

**Table 5.1 Potential Impacts of the Proposed Action and No Action Alternative**

Resource Area	Proposed Action	No Action Alternative
Airspace Management and Safety	Long-term, minor, beneficial	No impact
Land Use and Recreation	Long-term, moderate, beneficial (land use); Short-term, negligible, adverse and long-term, minor, beneficial (recreation)	No impact
Noise	Long-term, minor, beneficial	No impact
Air Quality	Long-term, minor, beneficial	No impact
Geological Resources	Long-term, negligible to minor, adverse and long-term, minor, beneficial	No impact
Water Resources	Long-term, minor, beneficial and adverse	No impact
Biological Resources	Long-term, minor, beneficial	No impact
Transportation and Infrastructure	Long-term, minor to moderate, beneficial and long-term, minor, adverse	No impact
Hazardous Materials and Wastes	Long-term, minor, beneficial	No impact

*This page intentionally left blank*

## 6.0 REFERENCES

- DLA 2007a Defense Logistics Agency (DLA). 2007. *Updated Environmental Baseline Survey for Defense Distribution Depot Susquehanna Pennsylvania (DDSP) New Cumberland, PA*. Prepared by Weston Solutions. May 2007.
- DLA 2007b DLA. 2007. *Defense Distribution Depot Susquehanna, Pennsylvania, Summary Master Plan*. June 2007.
- DLA 2008 DLA. 2008. *Access Control Point Transportation Engineering Assessment*. Prepared with the assistance of Military Surface Deployment and Distribution Command and Gannett Fleming. September 2008.
- DLA 2009a DLA 2009. *Final Vegetation and Wildlife Survey Report for Defense Distribution Depot Susquehanna, Pennsylvania (DDSP)*. August 2009.
- DLA 2009b DLA. 2009. *Integrated Contingency Plan for Defense Distribution Depot Susquehanna, Pennsylvania (DDSP)*. Revision No. 1. 1 July 2009.
- DLA 2010 DLA. 2010. *DLA Distribution Susquehanna 2010 Environmental Update*. 2010.
- DLA 2011a DLA. 2011. *Integrated Pest Management Plan for Defense Distribution Center Susquehanna*. 18 February 2011.
- DLA 2011b DLA. 2011. *Pollution Prevention and Hazardous Waste Minimization Plan*. Revision 1. 19 July 2011.
- DLA 2012a DLA. 2012. *Fiscal Year 2013 Military Construction Project Data. Project Title: Replace Communications Building*. February 2012.
- DLA 2012b DLA. 2012. *Fiscal Year 2013 Military Construction Project Data. Project Title: Replace Reservoir*. February 2012.
- DLA 2013a DLA. 2013. *Real Property Master Plan Defense Distribution Center, Susquehanna*. 15 February 2013.
- DLA 2013b DLA. 2013. *Sustainability Plan. Defense Distribution Center, Susquehanna*. 17 January 2013.
- DLA 2013c DLA. 2013. *Net-Zero Energy Plan for Defense Distribution Center, Susquehanna*. 4 January 2013.
- DLA 2013d DLA. 2013. *Final Integrated Natural Resources Management Plan for Defense Distribution Center Susquehanna, Pennsylvania*. 2013.
- DLA 2013e DLA. 2013. *Annual Groundwater Monitoring Report (September 2013)*. December 2013.
- DLA 2013f DLA. 2013. *Upper Depot Parking Space Utilization*. Microsoft Excel spreadsheet provided to HDR in May 2013.
- Engineering Tool Box 2014 Engineering Tool Box. 2014. *Outdoor Ambient Sound Levels*. Available online: <[http://www.engineeringtoolbox.com/outdoor-noise-d\\_62.html](http://www.engineeringtoolbox.com/outdoor-noise-d_62.html)>. Accessed 20 February 2014.

PA DCNR 2011 Pennsylvania Department of Conservation and Natural Resources (PA DCNR). 2011. PA Geological Survey Data Viewer generated geologic map. Available online: <<http://www.gis.dcnr.state.pa.us/geology/index.html>>. Accessed 12 February 2014.

PADEP 2010 Pennsylvania Department of Environmental Protection (PADEP). 2010. Title V Operating Permit for the Defense Distribution Depot Susquehanna Pennsylvania. Permit issued 15 June 2010 and effective from 1 July 2010 until 30 June 2015.

U.S. DOT/FAA 2012 U.S. Department of Transportation, Federal Aviation Administration. (U.S. DOT/FAA). 2012. Airport Design. 28 September 2012.

USACE 1998 U.S. Army Corps of Engineers (USACE). 1998. Defense Distribution Center Wetland Delineation Report.

USDA-NRCS 2014 U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS). 2014. *Web Soil Survey*. Available online: <<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>>. Accessed 21 February 2014.

USEPA 2013a U.S. Environmental Protection Agency (USEPA). 2013. *Nonattainment Status for Each County by Year for Pennsylvania*. As of 5 December 2013. Available online: <[http://www.epa.gov/air/oaqps/greenbk/anay\\_pa.html](http://www.epa.gov/air/oaqps/greenbk/anay_pa.html)>. Assessed 25 February 2014.

USEPA 2013b USEPA. 2013. *Pennsylvania – USEPA Map of Radon Zones*. Available online: <<http://www.epa.gov/radon/states/pennsylvania.html>>. Accessed 24 March 2014. Page last updated 25 June 2013.

USFWS 2012 U.S. Fish and Wildlife Service (USFWS). 2012. USFWS Project #2012-0123. Response to Request Review of the Draft INRMP/EA for Defense Distribution Center Susquehanna, Pennsylvania. Letter dated 19 July 2012.

USGS 2008 U.S. Geological Survey (USGS). 2008. *2008 U.S. National Seismic Hazard Maps*. Available online: <[http://pubs.usgs.gov/fs/2008/3018/pdf/FS08-3018\\_508.pdf](http://pubs.usgs.gov/fs/2008/3018/pdf/FS08-3018_508.pdf)>. Accessed 12 February 2014.

USGS 2013 USGS. 2013. Steelton Topographic Quadrangle Pennsylvania, 7.5 Minute.

USGS 2014 USGS. 2014. *Geologic Units in York County, Pennsylvania, Mineral Resources On-Line Spatial Data*. Available online: <<http://mrddata.usgs.gov/geology/state/fips-unit.php?code=f42133>>. Accessed 12 February 2014.



## 7.0 LIST OF PREPARERS

This EA has been prepared under the direction of DLA. The personnel that contributed to the preparation of this document are listed here:

**Louise Baxter**

B.S. Political Science  
M.P.A. Public Administration  
Years of Experience: 20  
Editing

**Timothy Didlake**

B.S. Earth Sciences  
Years of Experience: 6  
Air Quality

**Megan Gambone**

M.S. Biology  
B.S. Environmental Science  
Years of Experience: 8  
Biological Resources

**Rebecca Hartless**

B.S. Civil/Environmental Engineering  
Years of Experience: 13  
Airspace Management, Safety, Noise

**John Hofer**

M.S. Geology  
Years of Experience: 22  
Land Use and Recreation, Geological Resources,  
Water Resources

**Chris Holdridge**

M.S. Environmental Assessment  
B.S. Environmental Science/Chemistry  
Years of Experience: 17  
Project Management

**Melissa Hoover**

M.S. Environmental Science  
Years of Experience: 16  
Land Use and Recreation, Water Resources,  
Transportation and Infrastructure

**Jonathan Kramer**

M.S. Geology  
Years of Experience: 9  
Geological Resources, Water Resources,  
Hazardous Materials and Wastes

**Cheryl Myers**

A.A.S. Nursing  
Years of Experience: 22  
Formatting

**Steven Peluso, CHMM, CPEA**

B.S. Chemical Engineering  
Years of Experience: 28  
Air Quality

**Tanya Perry**

B.S. Environmental Science  
B.A. Communications  
Years of Experience: 13  
Airspace Management, Safety, Noise

**Kurt Rautenstrauch, Ph.D.**

Ph.D. Wildlife Ecology  
Years of Experience: 25  
Biological Resources

**Tony Schmucker, P.G.**

B.S. Geosciences  
Years of Experience: 7  
Transportation and Infrastructure, Hazardous  
Materials and Wastes

**Andrea Ward, E.I.**

M.E. Environmental Engineering  
B.S. Civil Engineering  
Years of Experience: 5  
Transportation and Infrastructure

*This page intentionally left blank*

## **APPENDIX A. PROPOSED SUSTAINMENT, RESTORATION, AND MODERNIZATION PROJECTS AND COMPONENT PLAN PROJECTS**

---

### **Sustainment, Restoration, and Modernization Projects**

The Real Property Master Plan includes the following proposed Sustainment, Restoration, and Modernization projects:

- Repair fire doors (multiple buildings)
- Install safety railings above enclosed spaces in warehouses (multiple buildings)
- Install aircraft cables on perimeter fence at soccer fields
- Install enclosed fence and gates (Building 50, Bay 1)
- Install e-stop notification lights (Building 2001)
- Replace electrical panels (multiple buildings)
- Electrical panel arc flash labeling (multiple buildings)
- Replace fireproofing (Building 87)
- Replace guide rails at various locations
- Repair floor (Building 911)
- Repair exterior lighting; north side of EDC and various locations
- Upgrade ventilation for paint room (Building 750)
- Repair concrete floor in various locations at EDC (Building 2001)
- Miscellaneous line painting (Buildings 57, 58, 59, 765, 789, and 2001)
- Repair transition at Door 275, EDC (Building 1001)
- Replace air handling unit and variable air volume (Building 2012)
- Replace sanitary sewer along Mifflin Avenue
- Repair Marsh Run Bridge
- Replace concrete sidewalk and provide landscaping at Post 8 entrance, EDC (Building 1020)
- Road paving maintenance (Building 1001)
- Substation repairs (Building 1025)
- Offsite sign project
- Replace fence at swimming pool
- Renovate doors for shelter in place (Building 750)
- Repair blacktop area (Building 51, Bay 3)
- Alter roof to eliminate icing of gutter west access (Building 79)
- Repair floor and wall at steam room (Building 320)
- Remove battery rack features (Building 2001)
- Relocate Foreign Military Sales
- Install new generator and construct new vault (Building 89)
- Basewide metering modifications
- Replace administrative area lighting controls (Buildings 14, 80, 81, 255, 284, 315, 316, 320, 400, 732, 750, 911, 2001, and 2012)
- Replace culverts on Perimeter Road at fish pond
- Replace U and V Avenues and 3rd Street at Building 85
- Replace U and V Avenues and 5th Street at Building 84
- Replace Connector Road pipe between landfill and South Perimeter Road
- Repair basement drainage in Quarters 37
- Replace sewer force main at restroom 13 (Building 2001)
- Repair pavers at Child Development Center, Building 255
- Remove abandoned steam lines, upper depot across golf course
- Generator for pump station 6 (Building 1035)
- Replace roof; siding; and heating, ventilation, and air conditioning equipment (Building 412).

## **Net-Zero Energy Plan**

The Net-Zero Energy Plan includes the following proposed projects:

### **Energy-Reducing Projects**

- Conversion of Building 87 from steam to hot water and replacement of heating, ventilation, and air conditioning; control systems; and transpired solar collectors
- Building 400 boiler replacement and natural gas conversion
- Building 315 heating, ventilation, and air conditioning unit replacement and conversion to natural gas (94 percent efficient condensing boiler)
- Building 316 heating, ventilation, and air conditioning unit replacement and conversion to natural gas (94 percent efficient condensing boiler)
- Lighting Building 80 with sensors (ECIP) (T5 HO with motion sensor)
- Lighting Building 89 with sensors (ECIP) (T5 HO with motion sensor)
- Lighting Building 53 with sensors (ECIP) (T5 HO with motion sensor)
- Conversion of Building 300 to natural gas and replacing heating, ventilation, and air conditioning equipment
- Lighting Building 51 (T5 HO with motion sensors)
- Lighting Building 56 (T5 HO with motion sensors)
- Lighting Building 55 (T5 HO with motion sensors)
- EDC admin cafeteria refrigeration system replacement
- Lighting Building 50 (T5 HO with motion sensors)
- Lighting Building 52, Bays 4 and 5 (T5 HO with motion sensors)
- Add motion sensors to last 30 percent of T5 HO lights in Building 84
- Add motion sensors to last 30 percent of T5 HO lights in Building 83
- Add motion sensors to last 30 percent of T5 HO lights in Building 82
- Add motion sensors to last 30 percent of T5 HO lights in Building 85
- Add motion sensors to last 30 percent of T5 HO lights in Building 87
- EDC transpired solar collector
- Lighting and building envelope changes (such as replacing boilers, chillers, windows, insulation, lighting, and electric dampers)
- Installation of a central control system
- Implementation of an awareness program
- Building demolition and construction projects identified in the Real Property Master Plan.

### **Fleet Management Projects:**

- Exchange 12 fossil-fueled light truck vehicles for alternative-fueled vehicles
- Exchange 18 poor-performing vehicles in the notional fleet
- Exchange 20 vehicles for the right vehicle
- Exchange 2 fossil-fueled heavy truck vehicles and passenger vehicles for alternative-fueled vehicles
- Turn in 93 excess vehicles
- Exchange 127 gasoline forklifts for electric/propane-butane forklifts
- Reduce equipment fleet size by 189 pieces.

### **Microgrid Projects**

- PRC 1: Collect data
- PRC 2: Establish metrics, baselines, and future projections of energy, fuel, and renewables
- PRC 3: Implement education and awareness
- PRC 4: Perform Level 1 analysis of renewable energy

- PRC 5: Perform assessment of influencers to maximize energy conservation, energy controls, and energy efficiency
- PRC 6: Perform assessment of project implementation support
- PRC 7: Develop characteristics of microgrid
- PRC 8: Develop management and implementation plans
- PRC 9: Develop measures and time periods to validate performance
- PRC 10: Continually evaluate and make modifications to program
- PRC 11: Study for abnormalities in voltage regulation, protection and coordination, voltage stability, rotor angle stability, and frequency regulation
- MRV 1: Update PRC1 through PRC 9
- MRV 2: Perform additional studies (feasibility of alternative, environmental requirements)
- MRV 3: Obtain permits
- MRV 4: Execute steady-state measurement and verification protocol
- PPT 1: Obtain HOMER (microgrid software)
- TRN 1: Train HOMER (microgrid software)
- TRN 2: Provide operations and maintenance training on microgrid, controls, and SMART technology
- TRN 3: Provide supervisory training for microgrid, controls, and SMART technology.

### Renewable Energy Projects

- Transpired solar collectors for Buildings 82, 732, 760, 765, and 2001
- 15-megawatt biomass plant at Defense Distribution Center, Susquehanna in 2035 (Option A)
- 10-megawatt biomass plant and a 26-megawatt solar photovoltaic system at Defense Distribution Depot, San Joaquin in 2026 and 2028, respectively (Option B)

### Sustainability Plan

The Sustainability Plan includes the following proposed projects:

- ENG 1: Energy-efficient heating, ventilation, and air conditioning equipment
- ENG 2: Energy-efficient lighting and controls
- ENG 3: Building level metering-benchmarking
- ENG4: Energy awareness
- ENG 5: Establish a Building Energy Monitor program
- ENG 6: Centralized access and control of Direct Digital Controls systems
- ENG 7: Training for energy team
- ENG 8: Energy procurement
- ENG 9: Innovate design for new buildings
- ENG 10: Maximize available energy funding sources
- ENG 11: Replace roofs using “cool roof” technology, where economically feasible
- ENG 12: Form a Sustainability Council
- ENG 13: Continue regular contact with utility providers
- RNE 1: Partner with Defense Distribution Depot, San Joaquin to meet renewable energy requirement
- NZE 1: Plan for a smart microgrid
- NZE 2: Connect renewable and electrical systems
- W 1: Water Management Plan
- W 2: Water-efficient plumbing fixtures
- W 3: Water-efficient landscaping plant selection
- W 4: Water-efficient irrigation systems
- W 5: Leak-detection studies and leak repairs
- W 6: Water meter data analysis and reporting

- W 7: Water customer education
- W 8: Volume-based billing
- W 9: Treated wastewater reuse for irrigation
- W 10: Gray water use for toilet flushing or irrigation
- W 11: Rooftop water harvesting and cistern collection for toilet flushing or irrigation
- W 12: Storm water capture in ponds and reuse for irrigation
- W 13: Rain gardens and other measures to increase infiltration and reduce runoff
- W 14: Assess availability of long-term water supply
- W 15: Continue regular contact with utility providers
- WST 1: Vendor take-back program
- WST 2: Pallet provider
- WST 3: Vendor deliveries
- WST 4: Vendor packaging
- WST 5: Compostable material
- WST 6: Reusable service ware
- WST 7: Exchange program
- WST 8: Recycle film plastic and foam
- WST 9: Recycle mixed rigid plastics
- WST 10: Composting
- WST 11: Evaluate new technologies
- WST 12: Digester units
- WST 13: Develop outreach program
- WST 14: Report results
- WST 15: Workshops for tenants
- WST 16: Recognition programs
- WST 17: Training for custodial crews
- WST 18: Awareness for family housing occupants
- WST 19: Quantify program and greenhouse gas reductions
- FSL 1: Increase alternative-fuel vehicles and electric cars for government-owned vehicles
- FSL 2: Increase electric charging/plug-in stations
- FSL 3: Evaluate alternative energy sources via provider
- FSL 4: Evaluate long-term conversion of Central Heating Plant to cogeneration, dual-fuel
- FSL 5: Develop bike and pedestrian network
- FSL 6: Encourage commercial transit
- FSL 7: Review regional short- and long-term transportation growth plans
- FSL 8: Implement transportation improvements and Access Control Point access
- FSL 9: Develop a plan to ensure all light-duty trucks will be fueled by alternative fuels by December 2015
- FSL 10: Balance the fleet
- HPB 1: Develop a standard set of energy- and water-efficient technologies to incorporate into each building type
- HPB 2: Provide training opportunities to staff
- HPB 3: Develop and implement guidelines for comfort control
- HPB 4: Integrate energy-intelligent equipment into new projects
- HPB 5: Integrate maximum degree of automation
- HPB 6: Develop and fund feasible Memorandum of Understanding compliance program
- IAQ 1: Enhance awareness of indoor air quality, including green materials, green cleaning, and air infiltration
- IAQ 2: Develop and implement a mold-reduction plan
- GHG 1: Inventory greenhouse gas sources
- GHG 2: Establish 2008 greenhouse gas baseline

- GHG 3: Establish annual greenhouse gas measure and reporting
- GHG 4: Implement a greenhouse gas education and awareness program
- GHG 5: Develop a street planting plan
- GHG 6: Pursue a Tree City USA program
- GHG 7: Minimize vehicle parking paved surfaces; permeable pavement/grass pave type technology
- GHG 8: Pursue strategies to reduce greenhouse gas emissions
- GHG 9: Consolidate data centers
- URS 1: Conduct formal study of installation-wide systems
- URS 2: Monitor ingress/egress with cameras and motion detectors
- URS 3: Place critical systems underground
- URS 4: Use electrical and renewable energy
- URS 5: Ensure utility adequacy
- URS 6: Develop and install a secure microgrid
- EMS 1: Maintain and improve Environmental Management System
- EMS 2: Verify general compliance with Department of Defense Strategic Sustainability Performance Plan guidance
- EMS 3: Comply and track the Department of Defense's Strategic Sustainability Performance Plan
- PRO 1: Emphasize procurement practices for energy-efficient appliances and green products
- PLN 1: Meet with regional transportation planning, renewable energy, watershed, and environmental management departments
- PLN 2: Reduce footprint
- PLN 3: Follow best practices for land planning
- MRV 1: Develop and maintain monitoring and verification protocols
- MRV 2: Procure and maintain meters
- MRV 3: Develop and maintain audit program
- MRV 4: Commission and recommission buildings
- MRV 5: Measure and verify building performance
- MRV 6: Measure and verify recently installed energy-conservation measures, energy-efficiency measures, water-conservation measures, water-efficiency measures, and aspects of sustainability component systems.

### **Integrated Natural Resources Management Plan**

The Integrated Natural Resources Management Plan includes the following proposed projects:

- Provide training to installation staff on goals and objectives of the Integrated Natural Resources Management Plan and their roles
- Use geodatabases to store, manage, analyze, interpret, and report data
- Conduct flora and fauna surveys at established intervals (every 3 to 5 years)
- Survey for sensitive species and identify tasks to protect these species when appropriate
- Initiate projects to improve habitats for listed species
- Develop special status species identification sheets, avoidance information, and related maps
- Monitor and manage the compensatory wetland mitigation site in compliance with the permit
- Maintain and update wetland inventory data, including wetland distribution and categories
- Monitor impacts on wetlands from training activities
- Implement provisions of the Storm Water Pollution Prevention Plan
- Monitor groundwater to include drinking water, suspected pollution sources, and known plumes
- Conduct biotic surveys every 10 years to monitor significant changes in wildlife species
- Provide annual training for natural resources management on a military installation
- Conduct bird, small mammal, reptile, amphibian, and plant surveys

- Conduct surveys of activity sites to determine if migratory bird nests are present and active
- Develop effective management for minimizing the unintentional take of migratory birds
- Identify bird/wildlife aircraft strike hazards to the adjacent airfield
- Survey areas where soil erosion and compaction might occur to ensure that best management practices within the Erosion and Sedimentation Plan are implemented and effective
- Implement recommendations from the erosion survey and reseed or restore as needed
- Temporarily identify the desired trees and all of the trees that are going to be removed
- Daylight desired trees (i.e., oak, cherry, and hickory)
- Establish best management practices to prevent new species from becoming established
- Include language in contracts to prevent the spread of invasive plant species on the installation
- Implement pest management controls and other pest-related guidance and plans
- Obtain appropriate permits for nonnative and invasive plant species eradication in wetland areas
- Attend the National Military Fish & Wildlife Association annual training
- Cooperate with other agencies to ensure that natural resources laws are adequately enforced
- Create a public access protocol
- Establish a watchable wildlife program
- Educate the community, installation personnel, and tenants about the natural resources program
- Periodically review and update outreach and education materials.

### **Integrated Pest Management Plan**

The Integrated Pest Management Plan includes the following proposed projects:

- All in-house pest controllers will be Department of Defense-certified
- All newly hired in-house pest controllers will attend the Department of Defense course
- All in-house pest controllers will complete recertification every 3 years
- Recurring pest management requirements include
  - Pest control standing service orders (year round)
  - Services requested through work orders (year round)
  - Road shoulder maintenance and fence lines (every 6 months)
- Major pieces of equipment will be programmed for replacement according to a schedule to ensure continuity of operations
- A pesticide mixing/equipment storage hardstand should be constructed at the golf course maintenance shop to fulfill environmental safeguard requirements.





The logo consists of the letters 'HDR' in a white, serif font, positioned in the bottom-left corner of the olive green section. The 'H' and 'D' are connected at the top, and the 'R' is slightly separated. The background behind the text is a solid olive green color.

HDR