DRAFT ENVIRONMENTAL ASSESSMENT

FOR THE

IMPLEMENTATION OF THE INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN, 2024–2028

UNITED STATES ARMY GARRISON
WEST POINT, NEW YORK

GSA Contract No.: W912DS21D0002
Order No.: W912DS22F0094

Prepared for: USAG West Point
Directorate of Public Works
667 Ruger Road
West Point, New York 10996

Prepared by: Tetra Tech, Inc.
451 Presumpscot Street
Portland, Maine 04103

June 2023

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2024–2028

DIRECTORATE OF PUBLIC WORKS
UNITED STATES MILITARY ACADEMY
WEST POINT, NEW YORK

JUNE 2023

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LIST OF ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

%	percent
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-containing materials
ACS	Army Climate Strategy
AIRFA	American Indian Religious Freedom Act of 1978
AR	Army Regulation
Army	United States Department of the Army
AQCR	Air Quality Control Region
ARPA	Archeological Resources Protection Act
°C	degrees Celsius
CEQ	Council on Environmental Quality (Executive Office of the US President)
CFR	Code of Federal Regulations
CMP	Coastal Management Program
CRM	Cultural Resources Manager
dB	decibel
dBA	A-weighted decibel
DoD	Department of Defense
DPW	West Point Directorate of Public Works
EA	Environmental Assessment
EFH	Essential Fish Habitat
EO	Executive Order
°F	degrees Fahrenheit
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FR	Federal Register
GHG	Greenhouse gases
I-	Interstate
ICRMP	Integrated Cultural Resources Management Plan

LIST OF ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

Installation	United States Army Garrison West Point
INRMP	Integrated Natural Resources Management Plan
LBP	lead-based paints
LOE	Lines of Effort
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHLD	National Historic Landmark District
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRHP	National Register of Historic Places
NYS	New York State
NYSDOS	New York State Department of State
OM&D PA	2016 Operations, Maintenance and Development Programmatic Agreement with the New York State Historic Preservation Officer and the Advisory Council on Historic Preservation
OPRHP	New York Office of Parks, Recreation, and Historic Preservation
PCPI	per capita personal income
PIP	Palisades Interstate Parkway
Project	Integrated Cultural Resources Management Plan for 2024–2028
ROI	region of influence
SHPO	New York State Historic Preservation Officer
TAs	Training Areas
TEAs	Training Exempt Areas

LIST OF ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

US	United States
USAG West Point	United States Army Garrison West Point
USAG	United States Army Garrison
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USMA	United States Military Academy at West Point

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1.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The United States Army Garrison (USAG or Installation) West Point proposes to implement their Integrated Cultural Resources Management Plan (ICRMP) for the period of 2024–2028 (Project) (Appendix A) within the ICRMP Action Area as shown in Figure 1. The ICRMP Action Area includes the entirety of the USAG West Point boundary, located in Orange and Putnam Counties, New York (West Point).

In support of the Project, the United States Army Corps of Engineers (USACE) New York District, with support from USAG West Point Directorate of Public Works (DPW), has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and its implementing regulations (Title 40 of the Code of Federal Regulations [CFR] 1500–1508 Council on Environmental Quality).

1.1 BACKGROUND

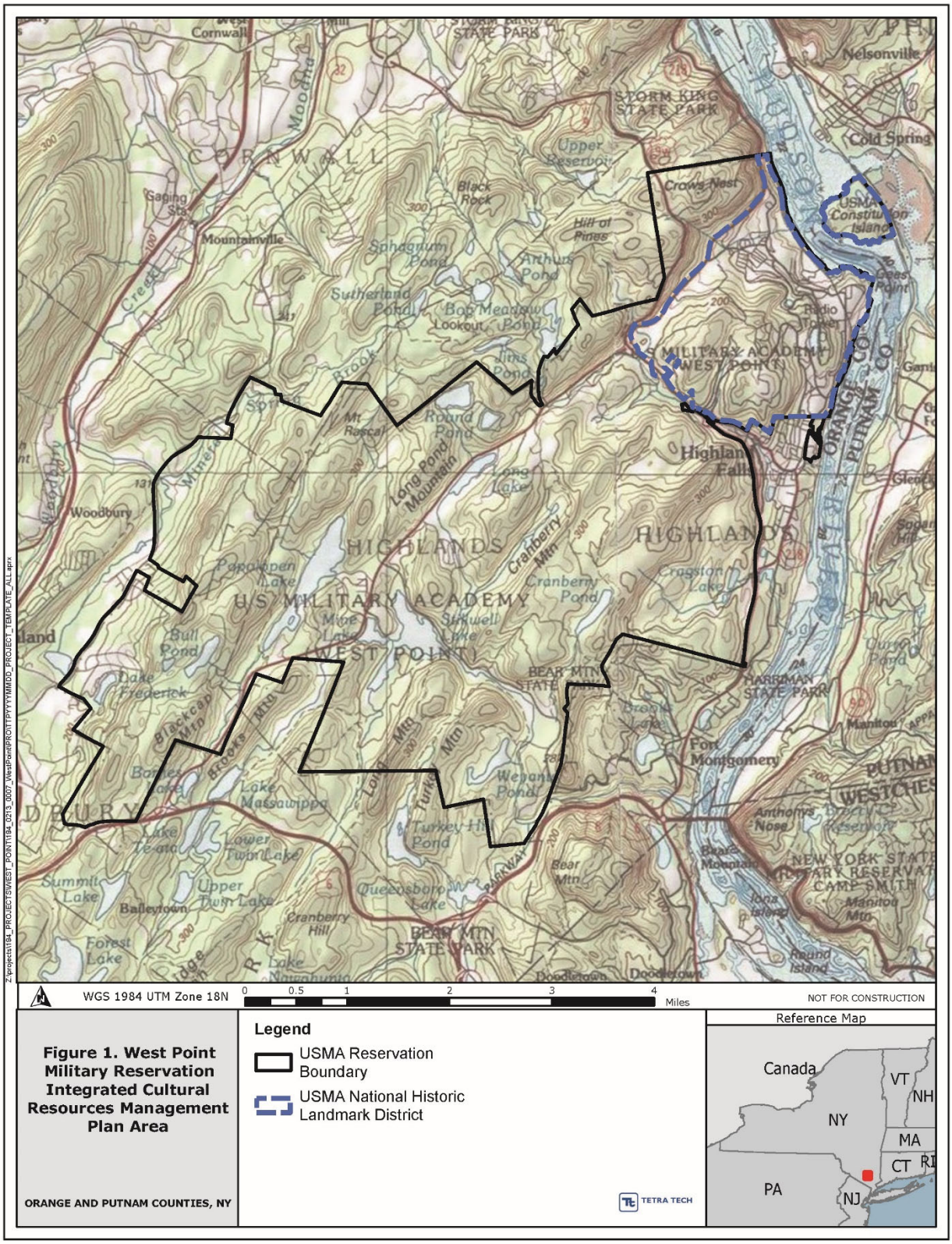
1.1.1 United States Army Garrison West Point

West Point comprises approximately 16,000 acres (6,470 hectares) of land along the Hudson River in New York State (NYS), approximately 50 miles (80 kilometers) north of New York City, New York (Figure 1). Troops were first stationed at West Point in 1778, making it the oldest operating military post in the United States (US). Since its founding in 1802, West Point has been the home of the United States Military Academy (USMA). West Point is also home to the Dean of the Academic Board, Directorate of Intercollegiate Athletics, Association of Graduates, and USMA Preparatory School. The Superintendent of the USMA (Superintendent) is Commander of the USMA. In 1961, West Point accepted National Historic Landmark (NHL) status from the National Park Service (NPS). In 1975, the NHL was re-designated as a National Historic Landmark District (NHLD) comprised of the Main Post and Constitution Island. Currently, the NHLD encompasses approximately 2,200 acres (890 hectares) which includes Constitution Island, and more than 700 buildings and structures (Stone Fort Consulting 2011).

USAG West Point consists of three distinct areas: the Main Post, the outlying West Point Military Reservation, and Constitution Island. Constitution Island is located across the Hudson River (on its western side) from the Main Post and located in the township of Philipstown, Putnam County. The Main Post and Constitution Island are approximately 2,200 acres (890 hectares) in size, with the West Point Military Reservation comprising approximately 13,500 acres (5,463 hectares).

1. The Main Post is the academic, administrative, and residential center of USMA West Point;
2. The outlying West Point Military Reservation is composed of a field training facility located west of the Main Post; and
3. Constitution Island consists of mostly undeveloped forestland (USAG West Point 2011a).

Figure 1. USAG West Point Regional Location Map (Action Area).



Approximately 4,400 Cadets and 1,250 active military personnel, along with approximately 2,350 civilian employees, occupy West Point. Another 4,000 civilians and 740 contract workers are employed at USAG West Point. Approximately 150,000 retired military personnel and their dependents live within 50 miles (80 kilometers) of West Point (USAG West Point 2014).

1.1.2 United States Military Academy

USMA West Point was founded in 1802. Its mission is "To educate, train, and inspire the Corps of Cadets so that each graduate is a commissioned leader of character committed to the values of Duty, Honor, Country and prepared for a career of professional excellence and service to the Nation as an officer in the United States Army" (USMA West Point no date).

Approximately 1,000 Cadets graduate from USMA each year as commissioned Second Lieutenant United States Department of the Army (Army) Officers. West Point also provides training for active-duty units, Army reservists, Reserve Officer Training Corps personnel, and other Government agencies. In addition, West Point provides services to approximately 9,000 retired military personnel and dependents.

1.1.3 Supporting Organizations

The Project proponent is the West Point DPW, which is one of seven Installation Support Directorates under the Garrison Command, and helps to provide the infrastructure necessary to support the missions of all tenants on West Point. In addition, coordination between the DPW Environmental Management Division and applicable local, state, and Federal agencies is required for environmental compliance and stewardship on the Installation (USAG West Point 2011b). West Point's Cultural Resources Program is a component of the Environmental Management Division of the DPW. Management program staff includes the Cultural Resources Manager (CRM), contract support, and one or more additional staff person (as determined by the periodic reviews of the staffing model).

1.2 PURPOSE AND NEED

The purpose of this Project is to fully implement the ICRMP 5-Year Plan that includes a broad program to ensure compliance with Federal and Army regulations for the management of cultural resources over the next 5 years. The 2024–2028 ICRMP update has been developed to incorporate new data, procedures, goals and objectives, and internal management guidelines, and is intended to replace the 2012–2016 ICRMP. Efforts to update the ICRMP began in 2016 but were delayed by internal funding and contracting issues, followed by additional delays due to the Covid-19 pandemic and the determination that NEPA review of prior ICRMPs had not been completed. It follows the requirements to prepare an ICRMP as defined in Chapter 6, Army Regulation (AR) 200-1, and has been specifically tailored to West Point, outlining the cultural resources management program's history, achievements, objectives, responsibilities, and standard operating procedures. It also reflects the latest guidance available and considers the current legal and regulatory mandates that apply to Army facilities. Although not a decision-making document, this plan provides the information necessary to enable the Superintendent, and those responsible for implementing their directives, to make informed decisions regarding the treatment of cultural resources at West Point. The Garrison Commander and West Point personnel involved in planning

activities are the primary internal intended audience of this document. The ICRMP also is a public document that involves stakeholder review to ensure the management of Federal resources and involves review and input from other consulting and interested parties such as State regulators and Federally recognized tribes. This includes, in particular, the CRM who is the individual responsible for the day-to-day management of cultural resources at West Point.

The need for developing and implementing the ICRMP is to comply with Chapter 6 of AR 200-1, and Department of Defense Instruction 4715.16, both of which require installations to develop an ICRMP as an internal compliance and management tool that integrates the entirety of the cultural resources program with ongoing mission activities. According to Chapter 6 of AR 200-1, a major goal for cultural resources includes development and implementation of procedures to protect against encumbrances to mission by ensuring that Army installations effectively manage cultural resources. General program management includes development of ICRMPs for use as a planning tool. West Point's development and implementation of the ICRMP meets these goals and will utilize the ICRMP to make informed decisions regarding cultural resources under their control in compliance with public laws, in support of the military mission, and consistent with sound principles of cultural resources management. The ICRMP also serves as a comprehensive plan and component of West Point's Master Plan, complementing other facility plans such as the Integrated Natural Resources Management Plan, Installation Design Guide, and Athletic Master Plan; and providing the Superintendent (or delegated official) with the information necessary to make informed decisions regarding cultural resources under their control. The goal of West Point's cultural resources program is to support the military and academic missions of West Point by providing professional expertise and support services in the fields of history, architecture, archaeology, and historic preservation. This goal is achieved through ensuring full compliance with cultural resources legislation; contributing to historic preservation awareness among Installation personnel; and developing a community-wide sense of stewardship for West Point's heritage.

The ICRMP is to be reviewed annually and updated as needed every 5 years. West Point has considerable legal responsibilities established by Federal laws and implementing regulations related to the identification, preservation, and management of cultural resources within its limits. Under Chapter 6, AR 200-1 the USAG West Point Commander is directly responsible for designating a CRM to coordinate the Cultural Resources Management program. The CRM performs day-to-day management of cultural resources and ensures that the USAG West Point remains in compliance with all applicable Federal laws and implementing regulations. The ICRMP update has been developed to guide the CRM, and West Point leadership, in complying with the range of Federal preservation requirements and Army regulations.

The ICRMP includes four parts that have been identified as crucial in fulfilling the USAG West Point's mission to support the preeminent leader development institution in the world, sustain a community of excellence, and preserve the national treasure of West Point. These are described in more detail below in Section 1.4.1 for the Preferred Alternative.

1.3 SCOPE OF ANALYSIS

This EA was prepared to assess the potential environmental effects of implementing the ICRMP, or "Proposed Action." The EA has been prepared in accordance with the requirements of NEPA

(42 United States Code 4321–4347), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (Title 40 CFR 1500–1508). The EA and the Proposed Action are additionally guided by the Army's commitment to and specific policies for conserving natural and cultural resources, including Title 32 CFR Part 651, which contains policies, responsibilities, and procedures for integrating environmental considerations into the Army planning and decision-making process.

Cultural resources include the "historic properties" of the National Historic Preservation Act (NHPA), "cultural items" of the Native American Graves Protection and Repatriation Act (NAGPRA), "archaeological resources" of the Archeological Resources Protection Act (ARPA), "sacred sites" (to which access is provided under the American Indian Religious Freedom Act of 1978 [AIRFA]) of Executive Order (EO) 13007, "Indian Sacred Sites," and collections of objects and associated records in 36 CFR Part 79, "Curation of Federally Owned and Administered Collections." Requirements set forth in NEPA, NHPA, ARPA, NAGPRA, AIRFA, 36 CFR Part 79, EO 13007, EO 13175, and their implementing regulations, define the USMA's compliance responsibilities for management of cultural resources. Section 106 of the NHPA (54 United States Code §306108) ensures that cultural resources are properly considered in the planning stage of any Federal agency activity involving an expenditure of funds, either directly by the agency or as Federal financial assistance, and those involving the issuance of a permit, license, or approval. In the Section 106 process, such activities are known as undertakings. Under Section 106, Federal agencies are required to consider the effects of their undertakings on any properties eligible for inclusion, or listed, in the National Register of Historic Places (NRHP) and to provide the Advisory Council for Historic Preservation (ACHP) an opportunity to comment on the effects prior to taking the action. Because it refers to the section in the original public law that enacted the NHPA and has been in constant use for over 50 years, the ACHP is continuing to refer to Section 106 (now Section 306108) of the NHPA as "Section 106."

The completion of this EA is required under Title 32 CFR Part 651.33 *Actions Normally Requiring an EA*[1].

The principal purposes in preparing this EA are to:

- Identify and assess potential impact on the natural and human environment that would result from the implementation of the Proposed Action;
- Identify and recommend alternatives and specific mitigation measures as necessary to minimize environmental impact upon the natural and human environment; and
- Assess reasonable alternatives to the Proposed Action that would avoid or minimize adverse effects upon the natural and human environment.

The No Action Alternative, described in Section 1.5, serves as the baseline to which all of the alternatives, including the Proposed Action, are being compared as part of the environmental analysis conducted in this document.

[1] 32 CFR Part 651.33(d) Alteration projects affecting historically significant structures, archaeological sites, or places listed in or eligible for listing on the National Register of Historic Places.

1.4 PROPOSED ACTION

The Proposed Action is to implement the ICRMP 5-Year Plan that includes a broad set of protocols to ensure compliance with Federal and Army regulations for the management of cultural resources over the next 5 years.

This section presents the Preferred Alternative and Alternative 1 (Partial Implementation of the ICRMP). Section 1.5 presents the No Action Alternative. No alternatives have been considered that were eliminated from detailed study. The Proposed Action is USAG West Point's and DPW's Preferred Alternative.

1.4.1 Preferred Alternative

The Preferred Alternative is to fully implement the ICRMP 5-Year Plan that will ensure compliance with Federal and Army regulations for the management of cultural resources over the next 5 years. The primary parts of the ICRMP 5-Year Plan include:

- *Maintenance and administration of the 2016 Operations, Maintenance and Development Programmatic Agreement (OM&D PA) with the New York Office of Parks, Recreation, and Historic Preservation (OPRHP) and the Advisory Council on Historic Preservation:* Cultural resources staff will continue to review and coordinate ongoing operation, maintenance, and development activities at West Point with the requirements of NHPA, in accordance with the 2016 OM&D PA. It is imperative that this agreement be maintained to meet the requirements of NHPA and to ensure the continued day-to-day operation of both the Garrison and the USMA.
- *Maintenance and implementation of other agreement documents and mitigations:* Cultural resources staff will ensure all other agreement documents, management plans, and mitigations are current and implemented. This includes ensuring the adequacy of and adherence to existing Tribal consultation agreements and West Point Housing and Lodging Programmatic agreements, completing all outstanding mitigations, and updating the ICRMP in 2028. This also includes implementing and abiding by any other legal agreements made after the implementation of the ICRMP.
- *Upgrading the archaeological curation facility and completing artifact inventory:* Cultural resources staff will ensure compliance with Federal regulations for the curation of Federally-owned and administered archaeological collections (36 Code of Federal Regulations Part 79). All efforts will be made to upgrade the curation facility to meet Federal curatorial facility standards. In addition, a complete inventory of West Point's archaeological collection, already underway, will be finished.
- *Continuing historic property evaluations and monitoring:* Cultural resources staff will continue to evaluate properties for historical significance, as required by NHPA. Also, identified historic properties will be monitored through periodic condition assessments.

In addition to the 2016 OM&D PA concerning consultation procedures with the New York State Historic Preservation Officer (SHPO) and ACHP, West Point also has an existing agreement with the Stockbridge-Munsee Community. Implementation of the Preferred Alternative would continue to support these obligations. Table 1 provides a summary of the existing agreements, including tribal agreements, that West Point has in place.

Table 1. Cultural Resources Management and Tribal Consultation Agreements for USAG West Point, New York.

Year	Type	Agreement
2003	Programmatic Agreement	Between the United States Military Academy (USMA), West Point, New York, and the New York State Historic Preservation Officer (SHPO) Regarding Utilities Privatization at the USMA, West Point, Orange County, New York.
2008	Programmatic Agreement	Among the United States Army Garrison (USAG), West Point, New York, the SHPO, and Advisory Council on Historic Preservation Regarding the Residential Community Initiative Implementation at the USAG, West Point, Orange County, New York.
2013	Programmatic Agreement	Between the USAG West Point and the SHPO for the Privatization of Army Lodging.
2014	Memorandum of Agreement	USAG West Point and Stockbridge-Munsee Community Regarding Consultation Procedures.
2016	Programmatic Agreement	Operations, Maintenance, and Development Programmatic Agreement concerning consultation procedures with the SHPO and Advisory Council on Historic Preservation.[2]

1.4.2 Alternative 1 Partial Implementation of the ICRMP

One alternative to the Proposed Action has been selected for comparison purposes, in addition to the No Action Alternative. Alternative 1 consists of partial implementation of the ICRMP. This alternative would implement three of the four primary parts of the ICRMP 5-Year Plan identified for the Preferred Alternative, including bullet points 1, 2 and 4 listed in Section 1.4.1:

- *Maintenance and administration of the 2016 OM&D PA with the SHPO and the Advisory Council on Historic Preservation:* Cultural resources staff will continue to review and coordinate ongoing operation, maintenance, and development activities at West Point with the requirements of NHPA, in accordance with the 2016 OM&D PA. It is imperative that this agreement be maintained to meet the requirements of NHPA and to ensure the continued day-to-day operation of both the Garrison and the USMA.
- *Maintenance and implementation of other agreement documents and mitigations:* Cultural resources staff will ensure all other agreement documents, management plans, and

[2] As part of National Historic Preservation Act compliance, the National Park Service also is consulted regarding adverse effects in West Point's National Historic Landmark District.

mitigations are current and implemented. This includes ensuring the adequacy of and adherence to existing Tribal consultation agreements and West Point Housing and Lodging Programmatic agreements, completing all outstanding mitigations, and updating the ICRMP in 2028. This also includes implementing and abiding by any other legal agreements made after the implementation of the ICRMP.

- *Continuing historic property evaluations and monitoring*: Cultural resources staff will continue to evaluate properties for historical significance, as required by NHPA. Also, identified historic properties will be monitored through periodic condition assessments.

Alternative 1 would not include bullet 3 listed in Section 1.4.1 for upgrading the archaeological curation facility. Implementation of Alternative 1 would require that West Point continue to use the existing curation facility as is; or find a curation alternative, either by paying a commercial facility to curate their artifact inventory or having the artifact inventory sent to another Army installation or Army curation facility.

Implementation of Alternative 1 would result in the minimum level of cultural resources compliance, such that no stewardship, planning level, or educational projects would be implemented. Potential impacts to West Point's cultural resources and the mission could occur through implementation of a less robust analysis of potential cultural resources impact, project delays, and a failure to foster relationships with academia, stakeholders, and the community. A reduced efficacy of the cultural resources program is anticipated to result through implementation of Alternative 1.

1.5 NO ACTION ALTERNATIVE

The No Action Alternative consists of not implementing the Preferred Alternative or Alternative 1, Partial Implementation of the ICRMP. None of the four primary parts of the 5-year ICRMP as described for the Preferred Alternative would be implemented. Although West Point may elect to continue to implement the existing 2012–2016 ICRMP, the NEPA review for this document was not formally completed for its implementation. Carrying forward the No Action Alternative may pose a legal and environmental risk as the 2012–2016 ICRMP NEPA documentation was not finalized. Furthermore, it would not be integrated as a planning document of West Point's Master Plan, or support other facility plans, thereby potentially having an effect on the mission. This could affect coordination with Army Headquarters and potentially result in project delays and additional impacts to cultural resources. Relations with other organizations, such as the OPRHP[3] is likely to also be impacted if the management of West Point's cultural resources appear to be unpredictable for those organizations currently involved with West Point's Cultural Resource Program.

The No Action Alternative would not fulfill the Project purpose, as it would not meet the applicable cultural resources legal requirements defined by Chapter 6 of AR 200-1 and Department of Defense Instruction 4715.16, and West Point would be in violation of Army guidance and other regulations which require installations to develop an ICRMP as an internal compliance and

[3] In New York, the Office of Parks, Recreation and Historic Preservation (OPRHP) functions as the State Historic Preservation Office (SHPO).

management tool that integrates the entirety of the cultural resources program with ongoing mission activities.

As a requirement of the NEPA evaluation process, the No Action Alternative is carried forward as an alternative throughout the document and serves as the baseline against which the other alternatives can be evaluated.

1.6 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

The No Action Alternative is carried forward as an alternative throughout the document and serves as the baseline against which the other alternatives can be evaluated.

2.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

2.1 WATER RESOURCES

Laws and regulations relevant to water resources include, but are not limited to:

- Clean Water Act of 1977;
- National Primary Drinking Water Regulations;
- the Rivers and Harbors Act of 1899;
- Safe Drinking Water Act, which ensures the quality of drinking water as established by United States Environmental Protection Agency (USEPA) drinking water standards; and oversight of state, local municipalities, and water suppliers in implementation of these standards;
- EO 11988, Floodplain Management; and
- EO 11990, Protection of Wetlands.

Water resources potentially affected by the proposed Project include groundwater, watersheds, surface waters and potable water, wetlands, floodplains, stormwater runoff, and water quality. All watercourses and waterbodies at West Point are protected under the jurisdiction of New York State Department of Environmental Conservation (NYSDEC) and the USACE. Disturbance of water resources would require Federal and NYS permits, including compliance with the Clean Water Act of 1977 regulations. Drinking water resources are protected by National Primary Drinking Water Regulations, which are legally enforceable standards that apply to public water systems, and include primary standards to protect public health by limiting the levels of contaminants in drinking water. The Rivers and Harbors Appropriation Act of 1899 prohibits the discharge refuse matter of any kind into the navigable waters, or tributaries thereof, of the US without a permit; prohibits excavation, fill, or alteration of the course, condition, or capacity of any port, harbor, channel, or other areas within the reach of the Act without a permit; and prohibits damming of navigable streams without a license (or permit). Although many activities covered by the Rivers and Harbors Act are regulated under the Clean Water Act, the Act retains independent vitality, and is administered by USACE; with Section 9 of the Rivers and Harbors Act of 1899 that is applicable to bridges and causeways, in/over/on navigable waters of the US administered by the US Coast Guard. Water resources, as well as the permits required and the potential impacts associated with

implementing the Preferred Alternative, Alternative A, Alternative B, Alternative C, and the No Action Alternative, are discussed in the following sections.

2.1.1 Affected Environment

2.1.1.1 *Groundwater*

Groundwater on USAG West Point occurs in an unconsolidated aquifer consisting of alluvial deposits and a consolidated bedrock aquifer. Water within the unconsolidated aquifer occurs primarily in the sands and gravels of the stratified drift deposits. These deposits represent the most prolific sources of groundwater, but the deposits are thin and generally have fairly small well yields which average about 40 gallons per minute (gpm) (USAG West Point 2011a). Water in the unconsolidated aquifer usually occurs under water table conditions.

Recharge to the aquifer is primarily from local precipitation, but hydrologic communication occurs between the alluvial and the bedrock aquifers and some upward seepage from the bedrock aquifer occurs in low-lying areas. The unconsolidated glacial till deposits on the installation exhibit poor sorting and a high clay percentage, which results in low porosity and permeability. As a result, the glacial tills typically have low well yields, averaging around 2.0 gpm (USAG West Point 2011a).

Groundwater occurs in the upper weathered, jointed, and fractured sections of the bedrock that underlies the installation. Recharge to the aquifer occurs in upland areas by precipitation, and discharge occurs in lowland areas through springs and upward seepage. Permeability and water movement in the bedrock aquifer is generally extremely slow due to the limited extent of the joint and fracture systems. Well yields in the aquifer are generally sufficient for small demands such as domestic use (USAG West Point 2011a).

2.1.1.2 *Watersheds*

The Project area is located within the Hudson-Wappinger subwatershed of the Upper Hudson River watershed, both of which are located within the Hudson River Watershed (USGS 2023).

2.1.1.3 *Surface Water and Potable Water*

West Point includes approximately 618 acres of ponds and lakes. Naturally-occurring bodies of water at West Point include Round Pond, Cranberry Pond, Long Pond, and Bull Pond. Several man-made lakes and ponds—Stilwell Lake, Popolopen Lake, Dassori Pond, Delafield Pond, and Lusk Reservoir—are also present. Popolopen Lake originally consisted of two water basins that were drained into the Hudson River by Popolopen Brook (USAG West Point XXXXb).

Most potable water at USAG West Point is supplied by surface water sources. The outlying West Point Military Reservation, bivouac and recreational facilities are supplied by 22 small-diameter, shallow wells that most likely draw water from the stratified alluvial sand and gravel deposits, and the upper weathered bedrock aquifers. Well depths are generally from 25 to 40 feet (8 to 12 meters) and have fairly low yields of from 3.5 to 6.0 gpm (USAG West Point 2011a).

Potable water is supplied primarily from three water treatment plants: the Stony Lonesome Plant, the Lusk Water Plant, and the Camp Buckner Plant. The treatment plants are supplied with water

from several lakes and reservoirs within the Popolopen watershed, including the Popolopen Lake, Stilwell Lake, Mine Lake, Long Pond and Lusk Reservoir. The Stony Lonesome Plant has a 2.0 million gallons per day (mgd) average capacity, the supply for which is pumped from Long Pond through a 20-inch line. The Lusk Water Plant has an average capacity of 2.8 mgd and water is supplied by a 20-inch gravity pipeline that originates at Popolopen Brook and flows to Lusk Reservoir. The Camp Buckner Plant has a 0.75 mgd capacity and draws its water from Popolopen Lake. Water is also supplied by a well at Round Pond and two wells at the Lake Frederick camp site (USAG West Point 2011a). West Point also has a license agreement with the Palisades Interstate Park Commissions to provide an unlimited supply of potable water during the high demand period of October 16 through May 31 each year. The agreement also states that during the nonpeak period, the Palisades Interstate Park Commission will provide a minimum of 300,000 gallons per day to West Point, so long as the Queensboro watershed water levels are maintained.

2.1.1.4 *Wetlands and Vernal Pools*

Wetlands. The intent of NYS' Freshwater Wetlands Act (adopted in 1975) is to preserve, protect and conserve freshwater wetlands and their benefits, consistent with the general welfare and beneficial economic, social and agricultural development of the state (USAG West Point 2011a). Per this act, wetlands are identified based on vegetation, as certain types of plants out-compete others when they are in wet soils, and thus are good indicators of wet conditions over time. Characteristic plants include wetland trees and shrubs, such as willows (*Salix* spp.) and alders (*Alnus* spp.); emergent plants such as cattails (*Typha* spp.) and sedges (Family Cyperaceae); aquatic plants, such as water lily's (Family Nymphaeaceae), and bog mat vegetation, such as sphagnum moss (*Sphagnum* spp.).

For a wetland to be protected under the Freshwater Wetlands Act, it must be 12.4 acres (5 hectares) or larger. Smaller wetlands also may be protected if they are considered of unusual local importance. A 100-foot adjacent area located around every wetland also is regulated to provide protection. Certain activities are exempt from regulation; other activities that could negatively impact a wetland are regulated. A permit is required to conduct any regulated activity in a protected wetland or its adjacent area, with permit standards including a provision that impacts to wetlands be avoided and minimized.

There are approximately 1,010 acres of wetlands located throughout West Point in association with streams, ponds, depressions, and seeps The latest inventory of wetlands on West Point was completed in 1993 by the USACE New York District, which characterized 146 distinct wetlands on USMA. Wetlands at USAG West Point identified as NYSDEC-regulated wetlands (as defined by the Freshwater Wetlands Act) are shown on Figure 2 (NYSDEC 2023a) and Figure 3 identifies the most current data available for mapped wetlands at the Installation.

Over two-thirds (108) of the wetlands identified are predominantly palustrine forested (PFO), 23 wetlands are predominantly palustrine emergent (PEM), and 14 are palustrine scrub shrub (PSS). Five wetlands were determined to consist of a mosaic of PEM and PSS (USAG West Point 2011a). Most of the wetlands are small with areas of less than 5 acres, and only a few exceed 15 acres. The largest wetland is located adjacent to Popolopen Brook, and is 71.6 acres in size, consisting of

Figure 2. New York Protected Wetlands.

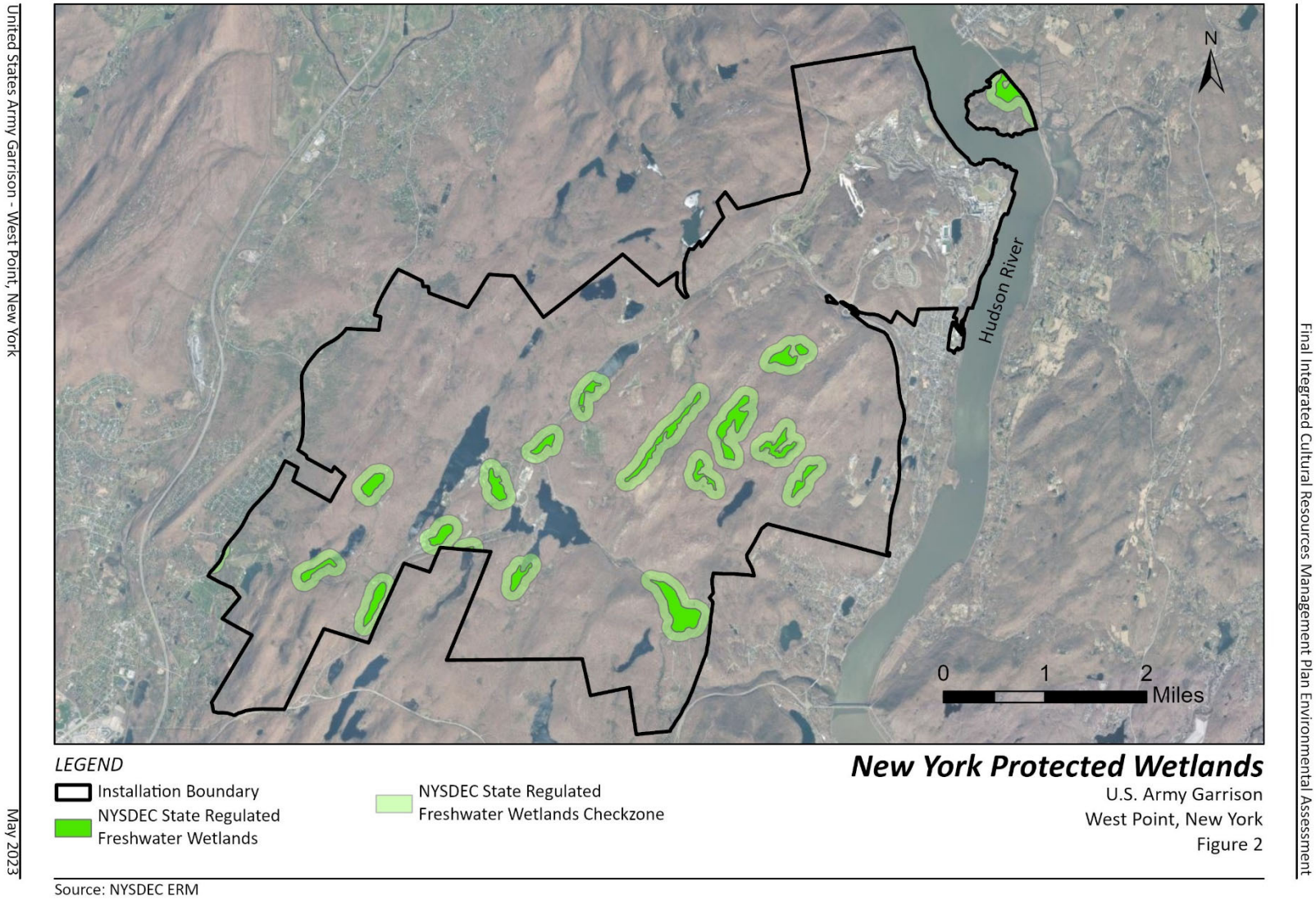
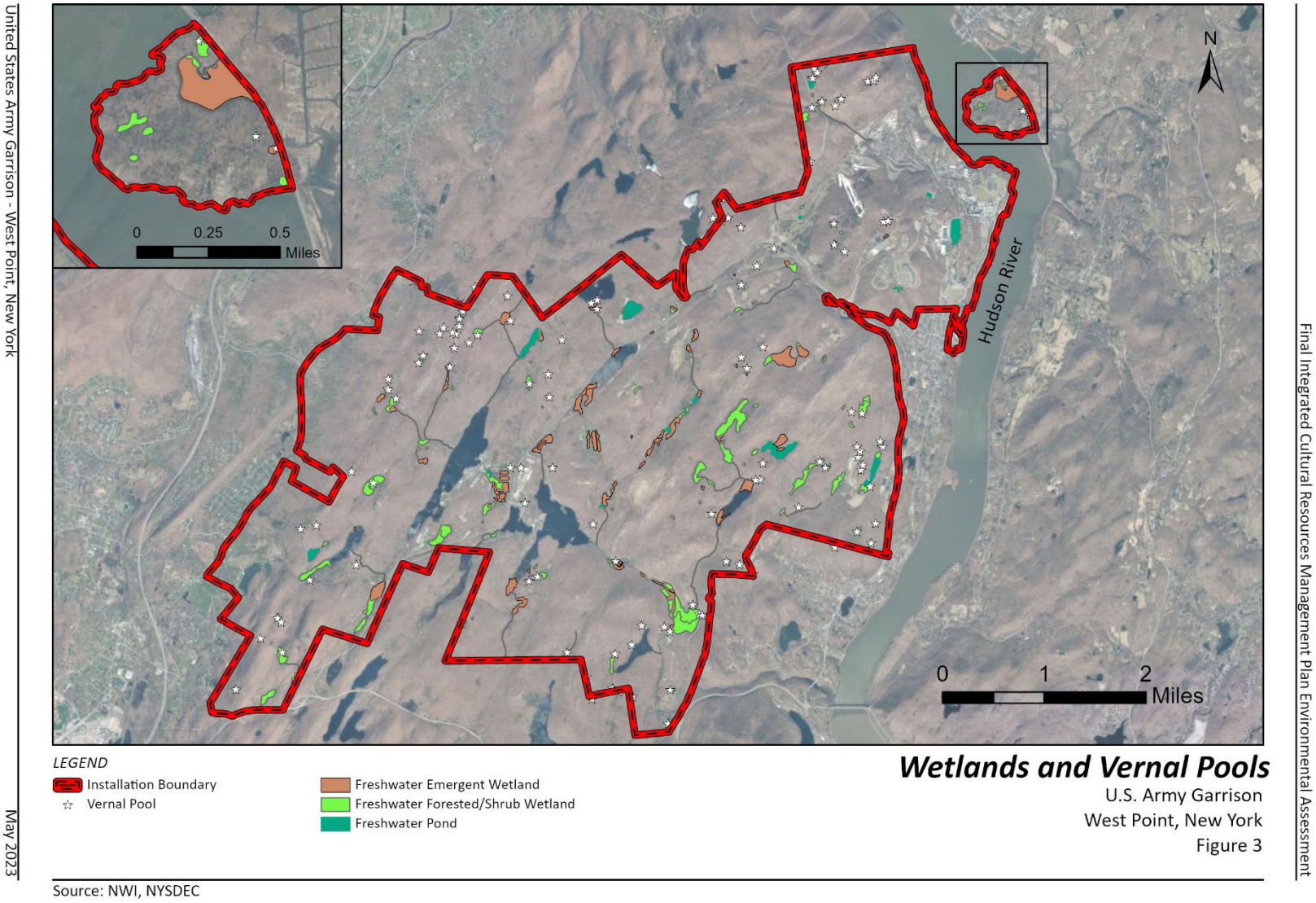


Figure 3. Wetlands and Vernal Pools.



PFO, PSS, and PEM habitats (USAG West Point 2011a). Most of the wetlands that occur are comprised of more than one cover class type (i.e., PEM, PSS, PFO). Wetland boundaries are regularly verified and mapped as needed in support of West Point projects and training needs.

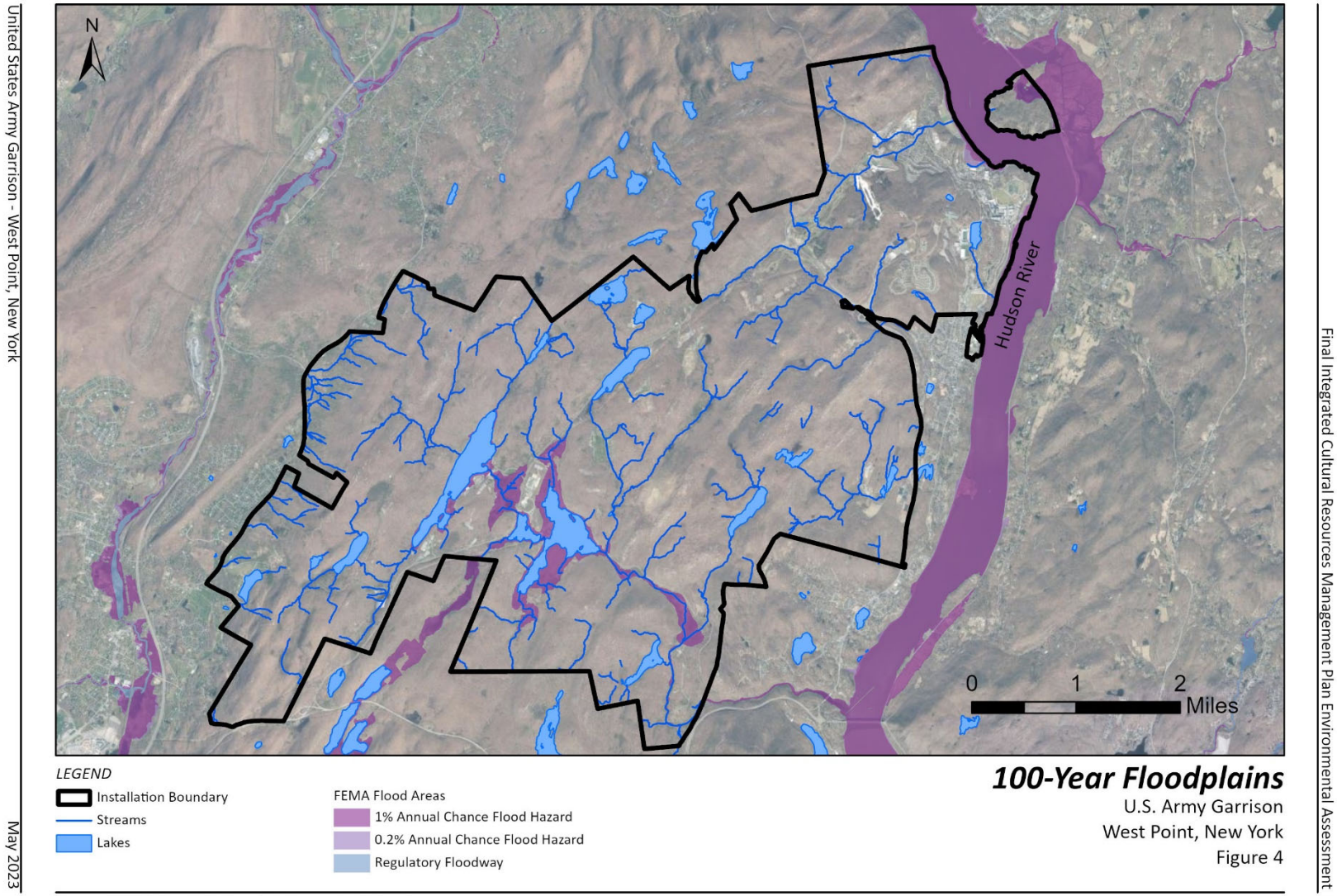
Common overstory species present within forested wetlands include red maple (*Acer rubrum*) and yellow birch (*Betula lutea*). Common understory species in forested wetlands include highbush blueberry (*Vaccinium corybosum*), lowbush blueberry (*Vaccinium angustifolium*), sweet pepperbush (*Clethra alnifolia*), steeplebush (*Spirea tomentosa*), meadowsweet (*Spirea alba*), buttonbush (*Cephalanthus occidentalis*), and willows (*Salix* spp.). Dominant species occurring in the wettest scrub-shrub areas include meadowsweet. The herbaceous layer within these wetlands commonly include sedge (*Carex* spp.), rushes (*Juncus* spp.) and smartweed (*Polygonum* spp.). Several species of ferns including New York fern (*Thelypteris noveboracensis*), marsh fern (*Thelypteris palustris*), lady's fern (*Athyrium filix-femina*), and cinnamon fern (*Osmunda cinnamomea*) also occur in association with West Point's wetlands. A significant acreage of the emergent wetlands also are dominated by common reed (*Phragmites australis*) and narrow leaved cattail (*Typha angustifolia*) (USAG West Point 2011a).

Vernal Pools. Vernal pools consist of temporary bodies of freshwater that provide essential habitat for many vertebrate and invertebrate wildlife species. Vernal pools are generally filled by spring rains and snowmelt, and dry up during the summer months. However, some may be filled by rainwater in the fall and persist throughout the winter. Vernal pools also can be created as a result of seasonally high groundwater tables. As they are temporary in nature, vernal pools do not support fish populations. Vernal pool wildlife species have evolved breeding strategies that are intolerant of fish predation on their eggs and larvae, and are totally dependent on vernal pools for their survival. Some examples of vernal pool species that occur at West Point that are reliant upon vernal pools for breeding include salamanders (*Ambystoma* spp.) and wood frog (*Lithobates sylvaticus*) (USAG West Point 2011a). Many other species of amphibians use vernal pools for breeding and nonbreeding functions, but are not restricted to vernal pool habitat for survival. Areas in the immediate vicinity of vernal pools are used by vernal pool species for important nonbreeding habitat functions such as feeding, shelter, and overwintering. The diversity of invertebrates that inhabit vernal pools provide important food for various species of birds, mammals, reptiles, and amphibians. Vernal pools identified at USAG West Point are shown on Figure 3, and include a total of 41 vernal pools.

2.1.1.5 *Floodplains*

The 100-year floodplain is the area adjoining a river, stream, or watercourse covered by water in the event of a 100-year flood. These are mapped by the Federal Emergency Management Agency (FEMA) and are used to determine need and rates for flood insurance. Floodplains mapped by the FEMA at USAG West Point are shown on Figure 4 (FEMA 2023), and are distributed throughout the Installation area in associated with surface waters and drainages. Floodplain areas present include flood areas having a 1 percent (%) annual chance flood hazard and a 0.2% annual chance flood hazard.

Figure 4. 100-Year Floodplains.



2.1.1.6 *Stormwater Runoff and Water Quality*

Stormwater runoff throughout West Point is dependent upon the topography and proximity of adjacent waterbodies, including the Hudson River. Depending on location at West Point, stormwater generally flows directly or indirectly through open channels or pipes, catch basins, and swales to the receiving waterbody.

West Point is located within the NYS coastal zone in association with the Hudson River. The section of the river in proximity to West Point is designated as Class B by NYSDEC, indicating that the best uses are primary and secondary contact recreation and fishing (USAG West Point 2011a). The Hudson River Estuary is listed as an impaired waterbody for polychlorinated biphenyls (PCBs) in *Section 303(d) List of Impaired/TMDL Waters* (NYS 2020). The Hudson River was previously designated as an impaired waterbody and impaired stream by NYSDEC due to pollution associated with a former battery making company that was located on the east bank of the Hudson River and operated from 1952 to 1979. The 70-acre (28-hectare) Marathon Battery Company site includes a now-demolished nickel-cadmium battery plant and 11 surrounding acres, the Hudson River in the vicinity of the Cold Spring pier, and a series of river backwater areas known as Foundry Cove and Constitution Marsh (USEPA 2023a). Clean up and remediation of the heavy metal contamination at this site was initiated in 1986, and the site was removed from the National Priorities List in 1996. In 1997 Scenic Hudson Land Trust purchased approximately 85-acres located along the Hudson River that included the former Superfund Site. The Trust redeveloped the site and it now provides public hiking trails and educational points of interest, as well as some areas that are open to the public for canoeing and kayaking (USEPA 2021). The 12-acre portion of the site that formerly housed the factory is awaiting re-development.

2.1.2 Environmental Impacts

Impacts to water resources are considered significant if they would result in short- or long-term violations to NYS or Federal water quality standards, or narrative objectives as established by local agencies water quality control plans or resource management plans. Impacts to groundwater are considered significant if groundwater flows are altered or reduced or if groundwater quality is degraded for sources used for municipal or industrial purposes. Impacts to wetlands, streams, and rivers are considered significant if hydrology or channel bed alterations result in short- or long-term erosion, affect downstream beneficial uses, result in long-term sedimentation that effect water quality or reduce the quantity of streamflow, such as from water withdrawals. Development within a 100-year floodplain is considered a significant impact.

The following sections describe the impacts and beneficial effects on groundwater, surface water and potable water, stormwater runoff, and water quality for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.1.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not affect groundwater, surface water and potable water, stormwater runoff, or water quality. None of the activities associated with implementation of the Preferred Alternative would impact water resources at West Point. Upgrades to the archaeological curation facility is anticipated to occur within the existing building footprint, and

upgrade activities are unlikely to require ground disturbing actions and/or stormwater controls, as construction activities are expected to be limited to occurring within the interior of the building. Continuing to evaluate and monitor identified historic properties and/or cultural sites through periodic condition assessments has the potential to benefit water resources at West Point over the long-term, by ensuring property conditions are maintained to prevent sedimentation or non-organic inputs from entering surface waters.

2.1.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not affect groundwater, surface water and potable water, stormwater runoff, or water quality. None of the activities associated with implementation of the Alternative 1 would impact water resources at West Point. Continuing to evaluate and monitor identified historic properties and/or cultural sites through periodic condition assessments has the potential to benefit water resources at West Point, by ensuring property conditions are maintained to prevent sedimentation or non-organic inputs from entering surface waters.

2.1.2.3 *No Action Alternative*

No adverse impacts or beneficial effects to water resources would occur under the No Action alternative.

2.2 GEOLOGY AND SOILS

Laws and regulations relevant to geologic and soil resources include, but are not limited to:

- Farmland Protection Policy Act of 1981;
- Federal Soil Conservation Law; and
- Soil Conservation and Domestic Allotment Act of 1936 (Public Law [PL] 74–461) allows the Government to pay farmers to reduce production to conserve soil and prevent erosion.

2.2.1 Affected Environment

2.2.1.1 *Geology*

West Point is located in an area known as the Hudson Highlands. This mountainous region is part of the Reading Prong within the New England Upland Section of the New England Physiographic Province. The underlying bedrock is composed of Precambrian igneous and metamorphic rock formations that have undergone extensive folding, faulting, intrusions, weathering, and erosion over time (USAG West Point 2011a, Military Geology Branch 1959). The surficial geology consists mainly of a shallow, often rocky, layer of soil derived from glacial till and alluvium. Rock outcrops are common across the Installation (USAG West Point 2011b).

2.2.1.2 *Topography*

The topography of West Point reflects glacial forces and differential weathering of ancient rock that resulted in formation of the mountains known as the Hudson Highlands, which run in a

northeast-southwest direction. This topography is best described as having moderately steep hills and numerous escarpments. The highest elevation (1,433 ft) on the outlying West Point Military Reservation occurs at Burke Mountain and the lowest elevation (near sea level) occurs at the Hudson River. Slopes from 10 to 60%are common on the Installation (USAG West Point 2011a). Areas in between the hills are interspersed with small plains, basins, and narrow valleys with slopes less than 3%.

The topography of the surrounding region is undulating and rugged. These characteristics, along with the alluvium and till deposits in the lowland areas and the relatively flat valley bottoms of the region, are the result of glaciation (USAG West Point 2011a). The topography of Constitution Island has small variations in elevation and consists of one hill rising to 140 feet (43 meters) above mean sea level (USAG West Point 2011a). The western third of the island is steeply sloped toward the Hudson River while the eastern portion of the island slopes gradually, generally to the east.

2.2.1.3 *Soils*

Soils on West Point were formed from glacial till and alluvium derived from glacially transported sediment and locally occurring crystalline bedrock (USAG West Point 2011a). These soils are characterized as shallow (0-2 feet [0–24 inches]), stony, and boulder-strewn and are less than 6 feet (2 meters) deep. Peat deposits on West Point range in thickness from 2 to 19 feet (1 to 6 meters). The soils on hilltops and hillsides are well drained and contain only shallow soils with frequent outcrops.

Deeper, poorer draining soils are located in low-lying areas and occupy the level areas and depressions on hill summits and in parts of the small floodplains in the valleys (USAG West Point 2011a). The fertility of USMA's soils is generally low. Bedrock is exposed on summits and very steep slopes. The Hollis-Rock Outcrop Association is the dominant soil on West Point. Soils in this association are steeply sloping, excessively drained and well-drained, medium-textured soils overlying crystalline bedrock, on mountainous uplands. Sandy loams, gravelly loams, gravelly sandy loams, silt loams, and gravelly silt loams are all known to be on site, with the most prevalent being silt loams (USAG West Point 2011a). Additionally, there are several stony and extremely stony soil types.

The Soil Survey of Orange County, New York, describes the soils of the Hollis-Rock Outcrop Map Unit as "mostly forested, good habitat for wildlife and unsuited to farming or community development. The soils are shallow and are well drained to excessively drained. The rate of water movement is moderate or moderately rapid." Because of the high amount of vertical relief on much of the West Point Military Reservation, the potential for soil erosion, especially from these rapidly moving waters in some areas, is a concern (USAG West Point 2011a).

The dominant soils on Constitution Island are part of the Hollis-Rock outcrop, Charlton complex (USAG West Point 2011a). These are quickly draining soils that include fine sandy loams and gravelly sand loams. A 2-inch layer of humus overlies these soils. The second most prevalent soils on Constitution Island are located in the wetland in the northeast corner of the island. These soils are inundated sulfihemists.

Based on the Orange County Soil Survey, soil mapping units occurring on USAG West Point are shown on Figure 5. The soils on USAG West Point have been rated using the USDA Land Use Classification System, which assesses the constraints of soils on agricultural development. The capability class rates limitations from slight (I) to those which would nearly preclude their use for commercial agricultural production (VIII). The capability subclasses are soil groups within one class, and are designated by the letters e (erosion), w (wet), or s (shallow, droughty or stony). For example, a soil that is rated IIe indicates that the main limitation is risk of erosion unless close-growing plant cover is maintained. Although West Point is not being used for agriculture, the system provides a general indication of potential soil limitations.

Mapping units that are designated as hydric, or have inclusions that are hydric, are also indicated. Hydric soils are soils that are saturated, flooded, or ponded for long enough during the growing season to develop anaerobic (oxygen deficient) conditions. Anaerobic soil conditions are conducive to the establishment of vegetation that is adapted for growth under oxygen-deficient conditions and is typically found in wetlands (hydrophytic vegetation). Areas on West Point where hydric soils, or soils with hydric inclusions have been mapped are typically associated with the general location of wetlands and vernal pools.

A high percentage of soils at West Point have been determined to be susceptible to erosion, in part due to steep slopes that occur throughout the Installation (USAG West Point 2011a). The soil survey for Orange County indicates that there is a moderate to severe potential for erosion for over half of the soil mapping units that occur on USAG West Point (USAG West Point 2011a). Most problems associated with soil erosion on USAG West Point result from ground disturbance and the removal of vegetation on moderate to severe slopes or on long gradual slopes.

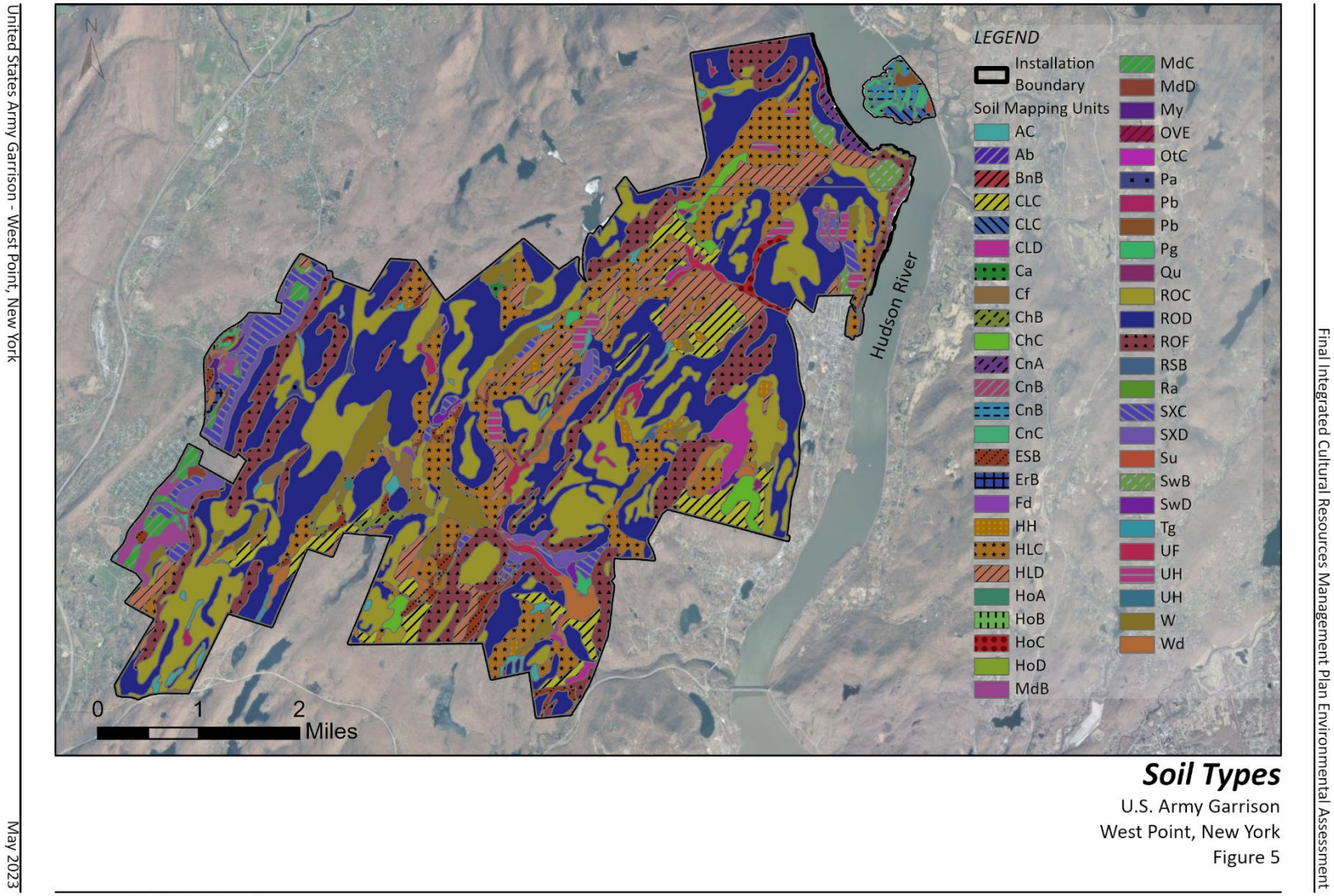
2.2.1.4 *Seismicity and Other Hazards*

Faults mapped at the surface near and within the habitation area at the USMA include the Long Pond, the Crown Ridge and the Highland Brook faults. The habitation area includes most of the developed areas of USMA. The Long Pond fault trends northeast-southwest along the northwestern boundary of the habitation area and the Storm King Highway (NYS Route 218). The Crown Ridge fault also trends northeast-southwest and extends through Lusk Reservoir. The Highland Brook fault trends northwest-southeast along US Route 9W and the Storm King Highway between the Long Pond and Crown Ridge faults (USAG West Point 2011a).

The largest earthquakes that have caused strong ground shaking in southeastern NYS include four earthquakes that occurred in 1737, 1783, 1884, and in 1895. Other significant earthquakes that were felt at West Point include the 1944 Messina, New York earthquake and the 1985 Westchester, New York earthquake. No reports of damage at the USMA as a result of any historic earthquake has been identified (USAG West Point 2011a).

Regionally, the Ramapo Fault crosses the Hudson River less than 10 miles (16 kilometers) south of West Point, and is part of the larger Ramapo Fault Zone, which extends through New York, New Jersey, and Pennsylvania (Jacob et al. 2004). Low magnitude earthquakes have been associated with the Ramapo Fault Zone.

Figure 5. Soil Types.



Despite the presence of earthquake faults at the Installation, the probability of damage caused by earthquakes is low due to their infrequency of occurrence and historically low magnitude. No reports of earthquake damage have been identified at the Installation (USAG West Point 2011a). A review of latest available seismic risk data for the West Point region as identified by United States Geological Survey (USGS) for New York indicates the region has a 14-20% probability of experiencing an earthquake with peak ground acceleration, with a 2% chance of being exceeded in 50 years (USGS 2014, 2019a) In comparison, the more seismically active California region has a range of peak ground acceleration values of up to 80% gravity. A review of available seismic data for West Point indicates it is located in an area with a relatively low seismic hazard; and therefore, the probability of major earth movement or damage as a result of seismic activity is low.

Given the overall topography, bedrock geology, and relatively low risk for earthquakes and prolonged ground shaking; there is a low risk of other geologic hazards, such as liquefaction or ground failure (i.e., sinkholes) occurring at West Point. Although West Point is located in a region of high landslide incidence, a review of the USGS' US Landslide Inventory identified one location at West Point that has been identified as having a landslide occur at or near this location. This location is located approximately ¼-mile (0.4 kilometers) north of the northern terminus of Meigs Road with Stony Lonesome Road and it is not in proximity to facilities or structures (USGS 2019b). The overall risk for landslide occurrence throughout West Point is considered low.

2.2.2 Environmental Impacts

Geologic impacts are considered significant if implementation of a proposed action would subject people, structures, or other resources to geologic hazards such as landslides, active or historically active faults within 10 miles (16 kilometers) that have the potential to cause strong ground vibrations, soils prone to liquefaction, historic volcanic activity, or substantial damage to, or elimination of mineral resources. Soil impacts are considered significant if implementation of a proposed action would increase soil erosion that results in degradation of water quality or aquatic habitat, reduction in soil productivity that would prevent successful reestablishment of vegetative cover, or the permanent loss of prime farmland.

The following sections describe the impacts and beneficial effects on geology and soils for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.2.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not affect geology or soils. None of the activities associated with implementation of the Preferred Alternative would impact geology or soils. Upgrades to the archaeological curation facility is anticipated to occur within the existing building footprint, and upgrade activities are unlikely to require ground disturbing actions and/or stormwater controls, as construction activities are expected to be limited to occurring within the interior of the building. Continuing to evaluate and monitor identified historic properties through periodic condition assessments has the potential to benefit geology and soils at West Point over the long-term, by ensuring property conditions are maintained to prevent soil erosion and related soil movement that could stem from failures of stormwater facilities or controls that are currently in place for historic properties and/or cultural sites.

2.2.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not affect geology or soils. None of the activities associated with implementation of the Alternative 1 would impact geology or soils. Continuing to evaluate and monitor identified historic properties through periodic condition assessments has the potential to benefit geology and soil resources at West Point, by ensuring property conditions are maintained to prevent soil erosion and related soil movement that could stem from failures of stormwater facilities or controls that are currently in place for historic properties and/or cultural sites.

2.2.2.3 *No Action Alternative*

Selecting the No Action Alternative would result in no impact on geologic or soil resources, because this alternative would not include any ground disturbing activities.

2.3 AIR RESOURCES

Laws and regulations relevant to air resources includes, but are not limited to:

- Clean Air Act (CAA);
- NYSDEC Chapter III, Air Quality Regulations; and
- 88 Federal Register (FR) 1196, *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change;*
- EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*.

2.3.1 Affected Environment

The USEPA Region 2 and NYSDEC regulate air quality in NYS. The Clean Air Act (CAA) (42 USC 7401-7671q), as amended, gives the USEPA responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) that set acceptable concentration levels for six criteria pollutants: particulate matter (measured as both particulate matter and, fine particulate matter), sulfur dioxide, carbon monoxide, nitrogen oxides , ozone, and lead. Short-term NAAQS (1-, 8-, and 24-hour periods) have been established for pollutants contributing to acute health effects, while long-term NAAQS (annual averages) have been established for pollutants contributing to chronic health effects.

Federal regulations designate Air Quality Control Regions (AQCRs) in violation of the NAAQS as nonattainment areas. Federal regulations designate AQCRs with levels below the NAAQS as attainment areas. According to the severity of the pollution problem, O_3 and PM_{10} nonattainment areas can be categorized as marginal, moderate, serious, severe, or extreme. Orange County (and therefore West Point) is within the Hudson Valley AQCR (AQCR 161) (40 CFR 81.129). As of May 31, 2023 the USEPA has not designated Orange County as having a nonattainment status for any criteria pollutants (USEPA 2023b).

Existing ambient air quality conditions in Orange County can be estimated from measurements conducted at air quality monitoring stations near West Point. The closest USEPA air monitoring

site to West Point is located in Newburgh, approximately 6 miles (10 kilometers) north of the Installation (USEPA 2023c).

West Point is considered a major facility for the purposes of Title V permitting. Primary sources of air emissions include boilers, generators, and fuel storage and dispensing areas. West Point's Class I Operating permit (Title V) (No. 3-3336-00022/00055) was issued in June 2014, renewed three times, and currently expired on March 6, 2022 (NYSDEC no date a, NYSDEC no date b). Permit requirements include monitoring and recordkeeping requirements such as an annual periodic inventory to NYSDEC for all significant stationary sources of air emissions for criteria pollutants. The West Point Target Hill Wastewater Treatment Plant also is covered by an Air Facility Registration Certificate for air emissions stemming from the Digester Gas Complex, that is effective for the period of June 16, 2022 through June 15, 2032 (NYSDEC no date c).

Climate and Greenhouse Gases. West Point is in the Town of Highland Falls, New York. Climate data for West Point characterizes the Installation as having warm summers and very cold winters. West Point's average maximum temperature in the summer is 82.8 degrees Fahrenheit (°F) (28.2° degrees Celsius [°C]), and an average minimum temperature in the winter of 23.4°F (-4.8°C). West Point has an average annual precipitation of 51.5 inches (130.8 centimeters) per year, with an annual snowfall average of 35.7 inches (90.7 centimeters) (National Oceanic and Atmospheric Administration [NOAA] no date).

Greenhouse gases (GHGs) are components of the atmosphere that trap heat relatively near the surface of the earth, and therefore, contribute to the greenhouse effect and climate change. Most GHGs occur naturally in the atmosphere, but increases in their concentration result from human activities such as the burning of fossil fuels. Global temperatures are expected to continue to rise as human activities continue to add carbon dioxide, methane, nitrous oxide, and other greenhouse (or heat-trapping) gases to the atmosphere. The annual statewide average temperature in New York has warmed 3.0 °F (-16.1°C) (0.6°F [-17.4°C] per decade) since 1970 (NYSDEC no date d). Average temperatures in New York are projected to rise by as much as another 3.0°F (-16.1°C) by 2080 with the northern portions of the state expected to experience the greatest warming. Across the northeastern United States, winters are warming faster than any other season, with average winter temperatures increasing by approximately 3.0°F (-16.1°C), spring temperatures by 2.0°F (-16.7°C), and summer and fall temperatures by 1.4°F (-17.0°C) over the past century. Winter temperatures have warmed three times as fast as summer temperatures in New York. Few days with freezing temperatures has increased the amount of winter precipitation falling as rain, resulting in lower volumes of snow cover and earlier timeframes for spring snowmelt periods.

An increase in the frequency and intensity of extreme temperature events also has occurred over the past several decades, with the frequency of cold waves decreasing and the frequency of heat waves increasing. The "heat island effect" is a term used to describe impacts within urban areas during heat waves, due to the increased amount of heat-absorbing surfaces, such as roads, parking lots, and buildings, coupled with fewer cooling green space and trees.

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* outlines policies intended to ensure that Federal agencies evaluate climate-change risks and vulnerabilities, and to manage the short- and long-term effects of climate change on their operations and mission. The EO specifically requires the Army to measure, report, and reduce its GHG emissions from

both their direct and indirect activities. EOs 14008 (*Tackling the Climate Crisis at Home and Abroad*) and 14057 (*Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*) are climate change policies that aim to chart out a sustainable climate pathway, for both the US and worldwide. Building upon these policies the US Army has established three major goals (or Lines of Effort [LOE]) to be implemented through their Army Climate Strategy (ACS), including:

- LOE 1: Installations will enhance resilience and sustainability by adapting infrastructure and natural environments to climate change risks, securing access to training and testing lands into the future, and mitigating GHG emissions.
- LOE 2: Acquisition and Logistics will increase operational capability while reducing sustainment demand and strengthening climate resilience.
- LOE 3: Training will prepare a force that is ready to operate in a climate-altered world (Department of the Army, Office of the Assistant Secretary of the Army for Installations, Energy and Environment 2022).

In establishing the ACS the Army has committed to reducing net GHG emissions by 50% by 2030 (compared to 2005 levels), attain net-zero GHG emissions by 2050, and proactively consider security implications of climate change in strategy, planning, acquisition, supply chain, and programming documents and processes (Department of the Army, Office of the Assistant Secretary of the Army for Installations, Energy and Environment 2022). In the National Defense Authorization Act for Fiscal Year 2022, the Department of Defense (DoD) is to reduce GHS emissions consistent with preventing an increase in global average temperature of greater than or equal to 34.7°F (1.5°C), compared to pre-industrial levels (Congress.gov 2021).

The CEQ recently released guidance on when and how Federal agencies should consider GHG emissions and climate change in NEPA analyses. The guidance states that Federal agencies should utilize information gained during the NEPA process to help inform decisions that align with climate change commitments and goals, such as evaluating reasonable alternatives that would lower GHG emissions. Additionally, agencies should consider mitigation measures that would avoid or reduce GHG emissions and are encouraged to mitigate GHG emissions to the greatest extent possible. Mitigation measures should meet appropriate performance standards to ensure they are additional, verifiable, durable, enforceable, and able to be implemented; and should not be limited to addressing significant effects (88 FR 1196–1212).

2.3.2 Environmental Impacts

CEQ's guidance for Federal agencies consideration of GHG emissions and climate change in NEPA analyses does not establish any particular quantity of GHG emissions as ''significantly'' affecting the quality of the human environment. Quantification of a proposed action's reasonable foreseeable GHG emissions should be included whenever possible, and placing those emissions in appropriate context should be included in the analysis of a proposed action's reasonably foreseeable climate change effects. Federal agencies should take the following steps when analyzing a proposed action's climate change effects under NEPA:

(1) Quantify the reasonably foreseeable GHG emissions (including direct and indirect emissions) of a proposed action, the no action alternative, and any reasonable alternatives.

(2) Disclose and provide context for the GHG emissions and climate impacts associated with a proposed action and alternatives, including by, as relevant, monetizing climate damages using estimates of their social costs, placing emissions in the context of relevant climate action goals and commitments, and citing available scientific literature to help explain real world effects.
(3) Analyze reasonable alternatives, including those that would reduce GHG emissions relative to baseline conditions, and identify available mitigation measures to avoid, minimize, or compensate for climate effects (88 FR 1196–1212).

If a Federal agency finds no significant impacts based on mitigation, the mitigated finding of no significant impact shall state any enforceable mitigation requirements or commitments that will be undertaken to avoid significant impacts. Mitigation commitments needed to lower the level of impacts so that they are not significant should be clearly described in the mitigated FONSI document and in any other relevant decision documents related to the proposed action (88 FR 1196–1212).

The following sections describe the impacts and beneficial effects on air resources for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.3.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not affect air quality, climate change or an increase in GHG emissions. None of the activities associated with implementation of the Preferred Alternative would impact air quality, climate change or result in an increase in GHG emissions at West Point. Upgrades to the archaeological curation facility is anticipated to occur within the existing building footprint, and upgrade activities are unlikely to require ground disturbing actions and/or require the use of heavy equipment, as construction activities are expected to be limited to occurring within the interior of the building.

2.3.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not affect air quality, climate change or an increase in GHG emissions. None of the activities associated with implementation of the Preferred Alternative would impact air quality, climate change or result in an increase in GHG emissions at West Point.

2.3.2.3 *No Action Alternative*

No adverse impacts or beneficial effects to air quality, climate change or an increase in GHG emissions would occur under the No Action Alternative.

2.4 NATURAL RESOURCES

Laws and regulations relevant to natural resources include, but are not limited to:

- State and Federal Endangered Species Acts;
- Bald and Golden Eagle Protection Act;

- Migratory Bird Treaty Act (MBTA);
- Magnuson-Stevens Fishery Management and Conservation Act of 1996 (Magnuson–Stevens Act);
- Fish and Wildlife Coordination Act of 1980;
- Marine Mammal Protection Act;
- NYSDEC-listed significant habitats, special natural areas, and Essential Fish Habitat (EFH) protection requirements; and
- Sikes Act, which requires DoD military installations to develop and implement Integrated Natural Resources Management Plans (INRMPs) to ensure proper consideration of fish, wildlife, and habitat needs; and provides guidance on the direct the management and use of these resources located at DoD installations.

Natural resources potentially affected by the proposed Project include vegetation, wildlife and fish, and habitats of concern. These resources and the potential impacts associated with implementing the Preferred Alternative, Alternative 1, and the No Action Alternative, are discussed in the following sections.

2.4.1 Affected Environment

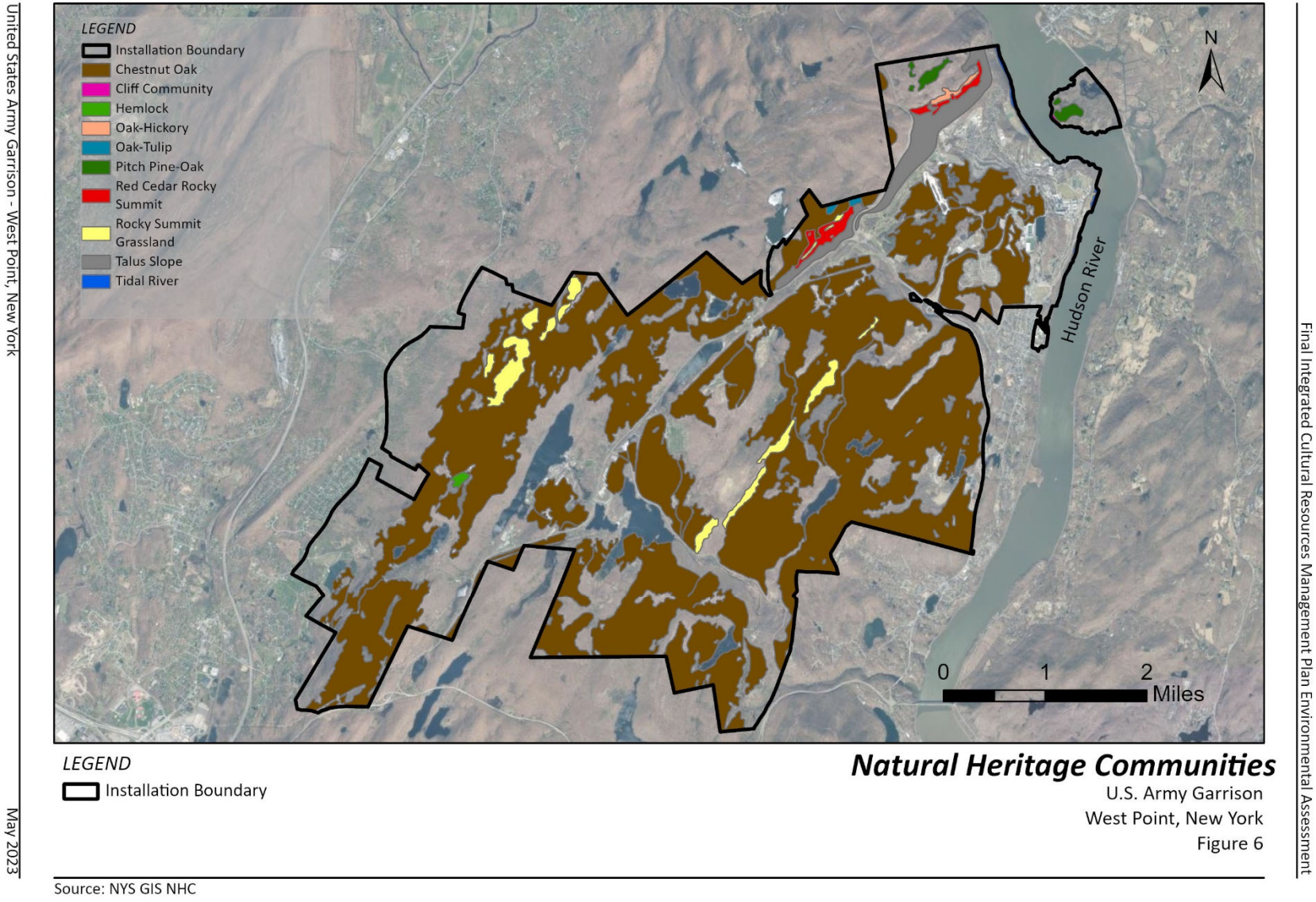
West Point does not contain any designated critical ecological areas or Federally designated critical habitat for ESA species (USFWS 2023).

2.4.1.1 *Vegetation*

West Point is located within an area of the Hudson Valley known as the Hudson Highlands, an ecozone consisting of Appalachian ridges and valleys that is in the New England Upland Physiographic province (USAG West Point 2011a). The Hudson Highlands are part of the Oak-Chestnut Forest region known as the sprout hardwoods (USAG West Point 2011a). Oak-Chestnut Forest is characterized by even-aged stands of oak-hickory (*Quercus* spp. and *Carya* spp.), mixed mesophytic (beech [*Fagus* spp.], eastern hemlock [*Tsuga canadensis*], and maple [*Acer* spp.]), and hemlock-hardwood forest associations. NYS Natural Heritage Program identifies 10 natural community types at USAG West Point and these are shown on Figure 6 (NYSDEC 2023b). The Chestnut Oak natural community is the dominant community type mapped at USAG West Point.

Generally, the West Point natural landscape can be described as elevated, rugged terrain with deep ravines and predominately glacial, acidic soils (till). Most of this landscape is forested, but there also are many crests present that have few trees and support only woodlands, savannas, or grasslands. A few broad crests have extensive unvegetated granitic bedrock exposure with vascular plants growing only in cracks or pockets of shallow soil (USAG West Point 2011a). Oaks (*Quercus* spp.) are the most common trees throughout the Installation, which is reflective of rocky and well-drained qualities of the soil. There are a few areas dominated by sugar maple (*Acer saccharum*). Crests and ridges are very dry and burn frequently from human-caused fires, and generally occur in association with military training activities (USAG West Point 2011a).

Figure 6. Natural Heritage Communities.



Vegetation surveys at West Point have identified 520 species of vascular plants, 124 species of bryophytes (mosses and liverworts), and five lichen species (USAG West Point 2011a). This species diversity is within the range of plant diversity identified for nearby areas. The Main Post area consists of developed complexes of buildings, access roads, parking lots, and landscaped areas. Vegetation, where it exists, consists primarily of mowed lawns, ornamental shrubs and trees, as well as a few mature trees. Areas of West Point that border the Hudson River contain areas that are steeply sloped and/or forested hillsides, which descend towards the Hudson River. Theses slopes and hillsides contain a combination of oaks, hickory, and pitch pine-oak tree species (*Pinus rigida* and *Quercus* spp.).

Rare Plants. Hundreds of rare flora species listed by the NYSDEC are found within the New England Upland Physiographic province (USAG West Point 2011a). Ten (10) plant species also are Federally listed.

Rare plant surveys completed for West Point have not identified the presence of any Federally listed plant species. These surveys have identified 10 NYS endangered plant species and 15 NYS threatened plant species (USAG West Point 2011a).

- NYS endangered plants
    - Virginia snakeroot (*Aristolochia serpentaria*);
    - Glomerate sedge (*Carex aggregata*);
    - Stripe-fruited sedge (*C. striatula*);
    - Thicket sedge (*C. abscondita*);
    - Midland sedge (*C. mesochoria*);
    - American waterwort (*Elatine americana*);
    - Carolina cranesbill (*Geranium carolinianum*);
    - Weak rush (*Juncus debilis*);
    - Water-thread pondweed (*Potamogeton diversifolius*); and Georgia bulrush (*Scirpus georgianus*).
- NYS threatened plants
    - Long's bittercress (*Cardamine longii*);
    - Slender crabgrass (*Digitaria filiformis*);
    - Featherfoil (*Hottonia inflata*);
    - Texas wild flax (*Linum medium* var. *texanum*);
    - Violet wood sorrel (*Oxalis violacea*);
    - Riverweed (*Podostemum ceratophyllum*);
    - Carey's smartweed (*Polygonum careyi*);
    - Spotted pondweed (*Potamogeton pulcher*);
    - Small-flowered crowfoot (*Ranunuculus micranthus*);
    - Small floating bladderwort (*Utricularia radiata*);
    - Pigmy starwort (*Callitriche terrestris*);
    - Cluster sedge (*Carex cumulata*);
    - Bicknell's sedge (*C. bicknelli*);
    - Bush's sedge (*C. bushii*); and
    - Weak stellate sedge (*C. seorsa*).

2.4.1.2 *Wildlife and Fish*

Wildlife surveys of West Point have identified 48 mammals, 249 birds, 22 reptiles, and 18 amphibian species (USAG West Point 2011a). Within the developed areas associated with the Main Post, the developed and landscaped nature of the environment limits these areas to primarily supporting small mammals and birds that are adapted to, and typical of, urbanized settings. The majority of the small and large mammals, birds, reptiles, and amphibians known to occur are associated with the range and training areas located within the outlying West Point Military Reservation, within larger tracts of natural habitats that have been subject to less development and human activity (USAG West Point 2011a). Common wildlife in the West Point Military Reservation area include white-tailed deer (*Odocoileus virginianus*), gray squirrel (*Sciurus carolinensus*), eastern cottontail rabbit (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), groundhog (*Marmota monax*), and mourning dove (*Zenaidura macroura*). The West Point INRMP includes more detailed lists of wildlife associated with West Point (USAG West Point 2011a).

The Hudson River, located along the eastern bord of the Main Post area, provides habitat for a diverse array of fish species, including striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), bay anchovy (*Anchoa mitchilli*), hogchoker (*Trinectes maculatus*), mummichog (*Fundulus heteroclitus*), blueback herring (*Alosa aestivalis*), sunfishes (*Lepomis* sp.), suckers (*Catostomus* sp.), and American eel (*Anguilla rostrata*) (USAG West Point 2011a).

Threatened and Endangered Species and Species of Concern. A review of USFWS' Information for Planning and Consultation (IPaC) database for species known or that could potentially occur at West Point did not identify the presence of Federal designated critical habitat at the Installation. This review identified two Federally endangered mammal species (Indian bat [*Myotis sodalis*][4] and northern long-eared bat [*M. septentrionalis*]), one Federally threatened reptile species (bog turtle [*Glyptemys muhlenbergii*]), one Federal candidate for listing invertebrate species (Monarch butterfly [*Danaus plexippus*]), and one Federally threatened flowering plant species (small whorled pogonia [*Isotria medeoloides*]) that could be impacted by potential project activities (USFWS 2023) (Appendix D). Species that are Federal candidates for listing are not currently afforded Federal protection under the ESA.

West Point contains suitable roosting and foraging habitat for the Indiana bat and northern long-eared bat, both of which have historically been documented at West Point (USAG West Point 2011a). The most suitable roosting and foraging habitat for Indiana bat and northern long-eared bat at West Point occurs within the relatively undeveloped areas of the West Point Military Reservation that contains large, contiguous forested blocks. Shortnose sturgeon (*Acipenser brevirostrum*)[5] and Atlantic sturgeon (*Acipenser sturio*) are both Federal endangered species that have been documented within the portions of the Hudson River adjacent to the Main Post. Bog turtle historically occurred in the Popolopen watershed; however, no modern occurrences of this species have been recorded at West Point or within the immediate area (USAG West Point 2011a). The USFWS recently upgraded the listing for northern long-eared bat from threatened to

[4] Indiana bat, northern long-eared bat, bog turtle, and small whorled pogonia are also New York State endangered species.

[5] Shortnose sturgeon is a New York State endangered species.

endangered (87 FR 229). The USAG West Point INRMP contains a complete list of Federally listed species that have been documented at West Point (USAG West Point 2011a).

Other NYS endangered species that occur at West Point include the golden eagle (*Aquila chryseatos*) and peregrine falcon (*Falco peregrinus anatum*). The Allegheny wood rat (*Neotoma magister*), a NYS endangered species, historically has occurred at West Point. NYS threatened species identified at West Point include northern harrier (*Circus cyaneus*), bald eagle (*Haliaeatus leucocephalus*), least bittern (*Ixobrychus exilis*), pied-billed grebe (*Podilymbus podiceps*), and timber rattlesnake (*Crotalus horridus*). Additional NYS species of special concern also are associated with West Point, including small-footed bat (*Myotis leibii*). Bluefish (*Pomatomus saltatrix*), a species of Federal management concern under the Magnuson–Stevens Act, also is found in waters of the Hudson River adjacent to West Point in late summer and during periods of low freshwater flow. The West Point INRMP includes a complete list of sensitive species occurrences (USAG West Point 2011a).

Migratory Birds. Nearly all bird species that occur at West Point are protected by the MBTA (16 USC 703–712). Under the MBTA, all military installations are required to comply with the MBTA provisions that does not allow intentional or unintentional *take* of migratory birds. In addition to protection afforded by the MBTA, the bald eagle and golden eagle are protected by the Bald and Golden Eagle Protection Act (16 USC 668–668c). Bald eagle nests have been observed historically along the Hudson River in proximity to the Installation.

2.4.1.3 *Habitats of Concern*

Habitats of concern include NYSDEC-listed significant habitats, special natural areas, EFH, and wetlands.

NYSDEC-Listed Significant Habitats. NYSDEC has designated 40 Significant Coastal Fish and Wildlife Habitats that are associated with the Hudson River, including brooks, creeks, islands, pools, marshes, wetlands, and other habitats (NYS Department of State [NYSDOS] no date). Constitution Marsh, located along the eastern side of Constitution Island, is designated as Significant Coastal Fish and Wildlife Habitat, due to the moderately diverse, good quality habitat that has experienced extensive disturbance. The large marsh area is owned primarily by NYS and managed by the National Audubon Society as a wildlife sanctuary (USAG West Point 2011a). Constitution Marsh provides nesting habitat for least bittern (a NYS threatened species) and a variety of other birds, including the green-backed heron (*Butorides virescens*), various waterfowl, and passerine birds; provides a stopover point for migrating osprey (*Pandion haliaetus*) (a NYS species of special concern); and is an important feeding ground for herons, and other wetland and shore birds. The marsh also represents significant spawning and feeding grounds for anadromous and resident fishes including alewife (*Alosa pseudoharengus*), white perch (*Morone americana*), and striped bass.

In addition to Constitution Marsh, the area located between miles 44 to 56 on the Hudson River is a major spawning area for striped bass and white perch and also has been designated as Significant Coastal Fish and Wildlife Habitat, as well as being recognized by the New York Natural Heritage Program for its importance (USAG West Point 2011a). This area serves as a narrow migration corridor for all anadromous fish spawning upriver, including Atlantic sturgeon (*Acipenser*

oxyrhynchus), American shad (*Alosa sapidissima*), and alewife. During periods of low flow and saltwater intrusion, bluefish (*Pomatomus saltatrix*), bay anchovy (*Anchoa mitchilli*), silverside (*Menidia* spp.), hogchoker (*Trinectes maculatus*) and blue crab (*Callinectes sapidus*) are abundant in the deep-water zones. This stretch of the Hudson River is also considered "essential fish habitat" for bluefish under the Magnuson-Stevens Act of 1996.

Special Natural Areas. West Point has identified 12 Special Natural Area sites that are specially managed because of their ecological or geological significance, unique geological structure, or aesthetic and educational value (Figure 7). These include Constitution Island, Bear Swamp/Bull Hill, Popolopen Brook Wetland, Popolopen Brook Gorge, Timber Rattlesnake Den Area, Bull Pond Shoreline and Adjacent Hardwood Cove, Natural Bridge, Mineral Springs Talus Buffer and Gorge, Mineral Springs Brook, Cascade Ridge, Cat Hollow, and Johnson's Meadow Woodland (USAG West Point 2011a).

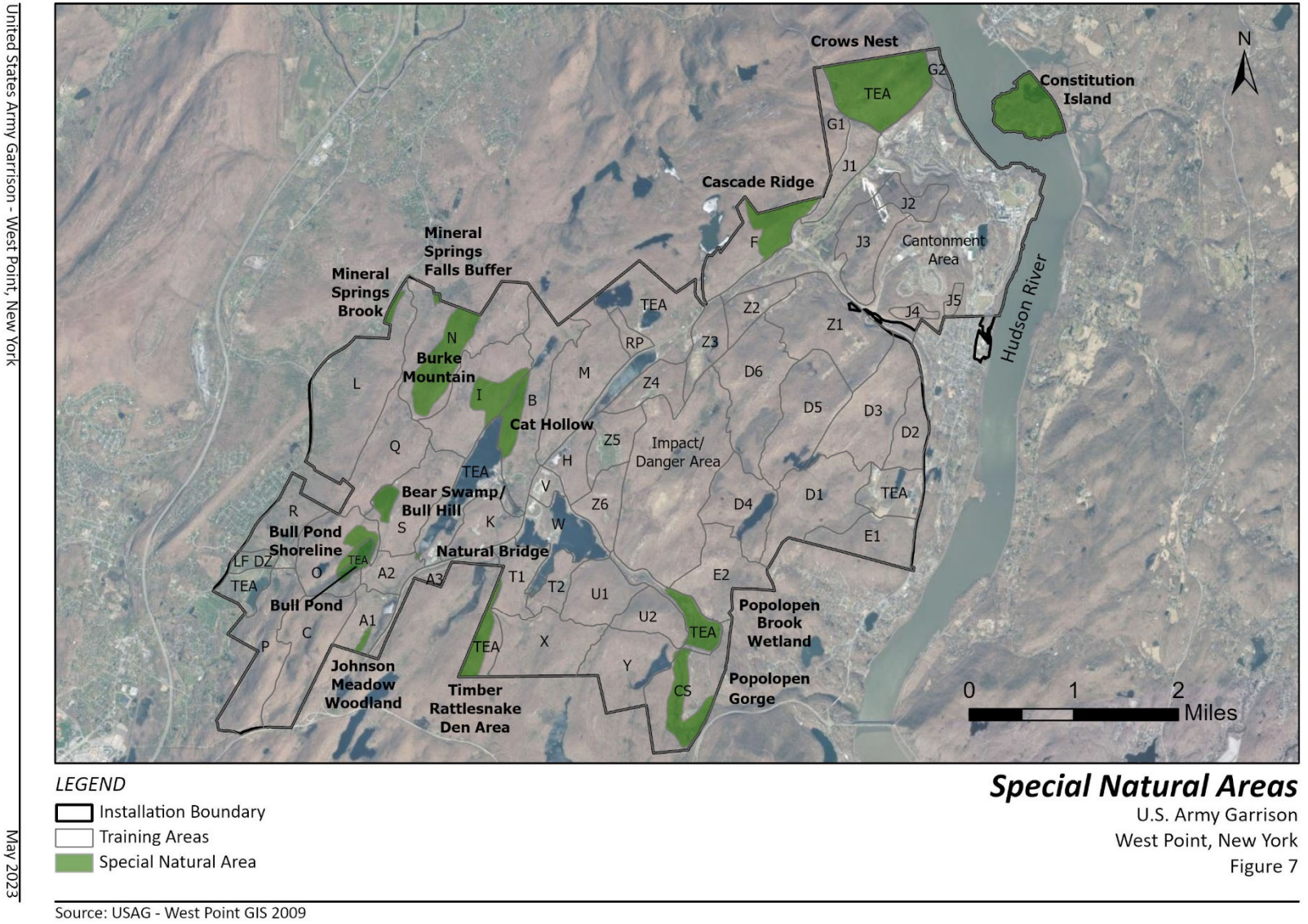
Essential Fish Habitat. The reach of the Hudson River located adjacent to West Point, lies within the river's estuary mixing zone. This reach of the river provides habitat for a range of life stages of fish that have Fisheries Management Plans within the Mid-Atlantic Unit. Under the Magnuson-Stevens Act, West Point has the authority, as a Federal agency, to make determinations about EFH and the likely effects to such habitat from agency actions. West Point is required to consult with NOAA Fisheries when a significant adverse impact is expected to occur as a result of Army actions. No EFH is located within the confines of the Installation boundary.

Wetlands. Wetlands are discussed in Section 2.1.1.4.

2.4.2 Environmental Impacts

Short-term and long-term impacts to natural resources are considered in this analysis, and are classified as direct or indirect. Direct impacts relate to immediate actions associated with any phase of a project that decreases the level of wildlife populations, and include elimination, or pollution of air, water, and soil, which adversely affects wildlife. Indirect impacts occur through habitat alteration that render the habitat unusable to wildlife, and include human encroachment and increased human populations, and increased public access to wildlife habitat areas. Indirect impacts may occur away from a project site and after construction of a project is completed, and are difficult to measure and predict. Temporary impacts occur during construction activities associated with a project, and include displacement of wildlife within and adjacent to the disturbance area, or a shift in established migration and foraging patterns. Short-term impacts to natural resources may occur from the time construction of a project is initiated to approximately three years after construction activities are completed, and include loss or disturbance of vegetation and habitats. Long-term or permanent impacts last longer than three years after construction activities are complete, and include loss of habitats of concern; change in vegetative cover that provides existing or potential fish or wildlife habitat used during critical periods, such as winter thermal cover, cover used during nesting or rearing periods, or breeding or migration; or impacts to a significant portion of a vegetation type that provides plant and wildlife habitat within a local region where revegetation activities are not expected to restore the vegetation to pre-project condition within the life of a project.

Figure 7. Special Natural Areas.



For vegetation and wildlife, impacts to individual NYS or Federally listed or proposed species, on substantial portions of local populations of NYS or Federally listed or candidate species including rare plants, species of special concern, and sensitive species, are considered significant if they result in direct mortality, permanent loss of existing or potential habitat, temporary loss of habitat that may result in direct mortality or lowered reproductive success, or avoidance by wildlife of biologically important habitat for substantial periods that may increase mortality or cause lowered reproductive success. Impacts to habitats of concern are considered significant if they are substantially altered. Project activities that would result in expanding the range of noxious or introduced plant and animal species also would be considered a significant impact. To predict the impacts of a project on natural resources, agency consultation, literature review, discussion with local experts, field surveys, and professional judgment are important components of the evaluations of impacts.

The following sections describe the impacts and beneficial effects on natural resources for the Preferred Alternative, Alternative 1, and the No Action Alternative. This analysis is based on a review of the West Point INRMP (USAG West Point 2011a), geographic information system (GIS) data, and information received from West Point natural resources personnel.

2.4.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not affect vegetation, fish and wildlife, or habitats of concern. None of the activities associated with implementation of the Preferred Alternative would impact natural resources at West Point. Upgrades to the archaeological curation facility is anticipated to occur within the existing building footprint, and upgrade activities are unlikely to require ground disturbing actions and/or stormwater controls, as construction activities are expected to be limited to occurring within the interior of the building. Continuing to evaluate and monitor identified historic properties and/or cultural sites through periodic condition assessments has the potential to benefit natural resources at West Point over the long-term, by ensuring property conditions are maintained to prevent deterioration of the properties from potentially impacting the natural communities and the plant and wildlife species supported by the West Point environment.

2.4.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not affect vegetation, fish and wildlife, or habitats of concern. None of the activities associated with implementation of the Alternative 1 would impact natural resources at West Point. Continuing to evaluate and monitor identified historic properties and/or cultural sites through periodic condition assessments has the potential to benefit natural resources at West Point, by ensuring property conditions are maintained to prevent their deterioration from potentially impacting the natural communities and the plant and wildlife species supported by the West Point environment.

2.4.2.3 *No Action Alternative*

No impacts on natural resources would be expected under the No Action Alternative. No vegetation or wildlife species nor habitats of concern would be disturbed under the No Action Alternative as no construction or renovation activities would occur.

2.5 CULTURAL RESOURCES

Cultural resources are nonrenewable resources for which value may be diminished by physical alterations and displacement. These resources include buildings, structures, objects, landscapes, and archaeological sites, as well as places of importance to a culture or community for reasons of history, religion, or science. In this EA and in the ICRMP, the term "historic properties" refers to cultural resources listed on or eligible for inclusion in the NRHP.

2.5.1 Affected Environment

Five cultural resource property types have been identified at USMA: buildings, structures, objects (such as monuments and statuary), landscapes, and archaeological sites. These property types have generated over 300 cubic feet (91 meters) of artifacts and associated records. Most aboveground resources are in the 2,250-acre NHLD (designated in 1960), which encompasses the Main Post, the Revolutionary War sites, and Constitution Island. Together the cultural resources of USMA contribute to a military and educational environment of national importance. Figure 8 identifies the NHLD in association with the remainder of the Installation areas, including Training Areas (TAs) and DuD Impact Areas. Figure 8 also identifies areas of the Installation that have been previously subject to cultural survey investigations.

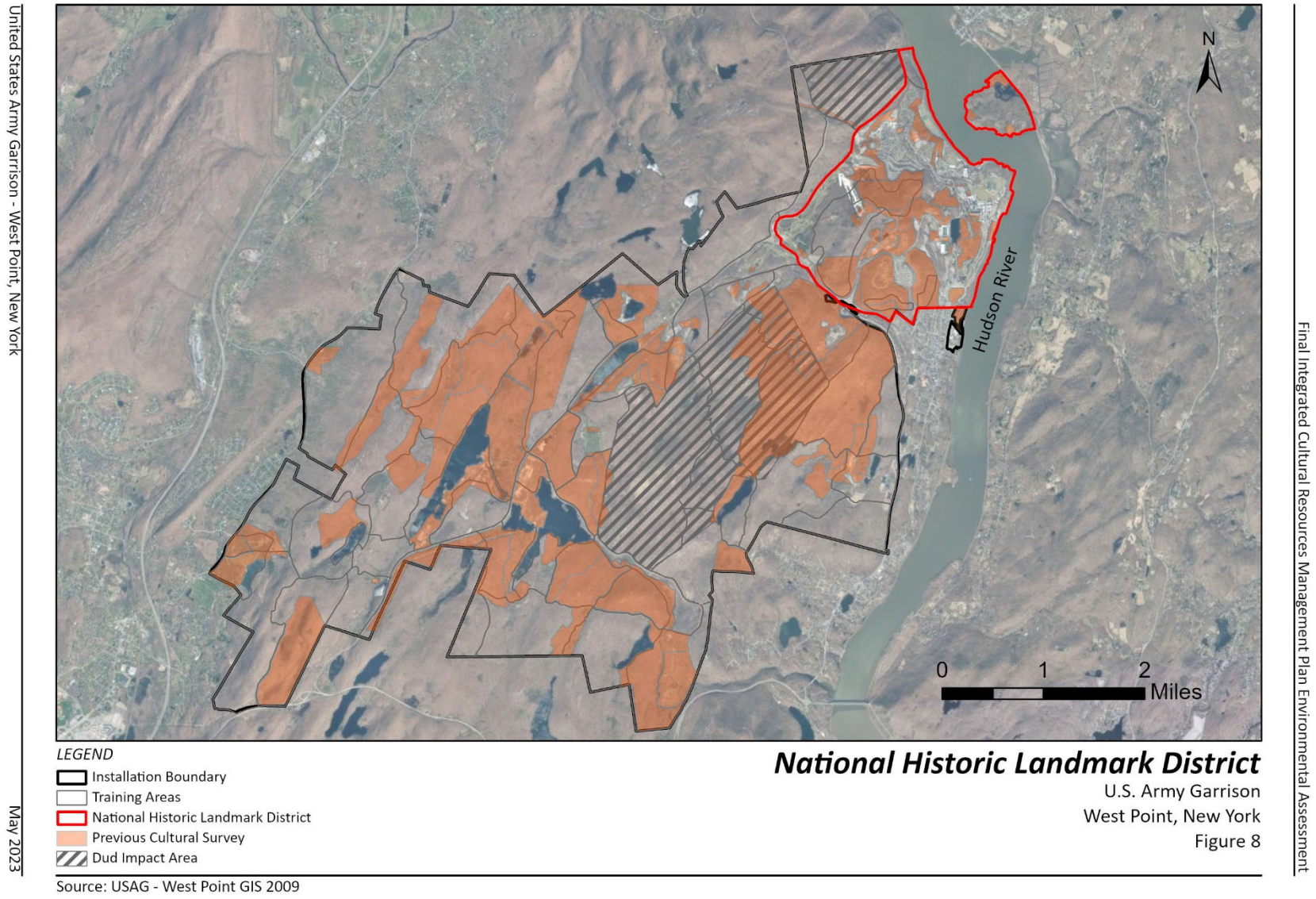
2.5.1.1 *Archaeological Resources*

Approximately 290 archaeological sites have been recorded to date at USMA. The recorded sites, which include both precontact and historic period archaeological resources, have been identified from numerous investigations conducted since the end of the nineteenth century. These investigations have been conducted in avocational, academic, and modern-day cultural resources management contexts. Known precontact archaeological sites on USMA range from the Early Archaic to the Late Woodland periods. Precontact site types include rockshelters, camps, lithic scatters, and isolated finds. Precontact artifacts have also been recovered from soil deposits at historic period sites. Historic archaeological resources include sites associated with early settlement, the Revolutionary War, early industry, and the USMA's development. The early settlement sites include foundations, stone fences, animal pens, wells, middens, and cemeteries. The early industrial sites comprise iron furnaces, a forge, mines, a mill, and railroad remnants. One of the iron industry sites, Queensboro Furnace, includes archaeological and built remains of a former ironworks complex; this complex is eligible for the NRHP.

Of the approximately 290 recorded archaeological sites at USMA, 90 sites are located within the NHLD, including 34 that are currently considered to contribute to the district. (Another 26 sites in the NHLD may also be contributing, but further research is needed to confirm.) One hundred and thirty-two sites are currently identified as eligible or potentially eligible within the West Point Military Reservation, and 86 sites have been determined ineligible. In the absence of definitive eligibility information, however, these sites are treated as if they are eligible for listing.

In addition to the recorded archaeological sites, a high potential exists for other archaeological resources both within the core area of the USMA and in the largely unsurveyed USMA Ranges and TAs. To date, it is estimated that archaeological identification survey (Phase I survey) has

Figure 8. National Historic Landmark District.



been completed in over 7,000 acres of the 15,467 acres of land within the West Point Military Reservation.

2.5.1.2 *Native American Resources*

To date, no Federally recognized Native American tribe has identified any sacred sites or traditional cultural properties at USMA or in the surrounding area.

2.5.1.3 *Historic Architectural Resources*

Recent cultural resources studies summarized in the ICRMP include the following identified NRHP-listed and -eligible architectural properties at USMA:

- The 2,250-acre NHLD;
- Over 500 buildings in the NHLD, including 295 contributing buildings and 440 non-contributing buildings;
- Over 35 objects, including historic monuments and plaques in the NHLD;
- Nine historic landscapes in the NHLD, such as parade, training, and athletic grounds, and the cemetery;
- An additional 13 historic landscapes at the West Point Military Reservation, both within and outside the NHLD; and
- West Point Bullion Depository (built 1937; now an official Mint), located outside the NHLD, is also individually listed on the NRHP.

The NHLD includes the historic built environment of the Main Post, the Revolutionary War sites, and Constitution Island. Five property types are represented in the NHLD—buildings, structures, archaeological sites, landscape features, and objects. The most recognizable unifying feature of the NHLD is the Gothic Revival architecture. However, excellent examples of other nineteenth- and twentieth-century architecture styles are also present. The various parade, training, and athletic fields comprise another of the defining elements. These include the Plain, Buffalo Soldier Field, and other designed landscapes throughout the Main Post. Natural features such as viewsheds, bluffs, and the Hudson River are also significant. Monuments and memorials, built as early as 1818, similarly contribute to the NHLD, as do historic bridges dating between 1889 and 1950 and one nineteenth-century dam. Finally, several dozen archaeological sites, dating from the Revolutionary War and early historic era of the USMA, are also important resources. These include, but are not limited to, the redoubts, batteries, hutments, and fortification sites.

2.5.2 Environmental Impacts

In accordance with 36 CFR Part 800, the implementing regulations for the NHPA, an adverse impact on cultural resources is posed when the proposed action may alter (directly or indirectly) any characteristic of a historic property that qualifies it for inclusion on the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse impacts on historic properties include the following:

- Physical destruction of or damage to all or part of the property;

- Alteration of a property—including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access—inconsistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines;
- Removal of the property from its historic location;
- Change of the character of the property's use or of physical features within its setting that contribute to its historic significance;
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features; and,
- Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

For the purposes of this ICRMP EA analysis, impacts on cultural resources are considered significant if prehistoric or historic-era resources eligible for listing or formally listed in the NRHP are disturbed or destroyed. Direct impacts are effects of project activities that disturb or destroy the integrity of NRHP-listed or NRHP-eligible cultural resources. These can include ground disturbing activities, noise or other vibrations, renovation, or removal. Indirect impacts are those that may occur later in time but which can be reasonably predicted at the time of project implementation. A significant adverse impact also could result if project activities would not abide by the established management documents, such as the ICRMP and programmatic and memoranda of agreements identified in Table 1.

The following sections describe the impacts and beneficial effects on cultural resources for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.5.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would benefit cultural resources. This benefit would be accomplished through full compliance with Chapter 6, AR 200-1 and, by reference, all other pertinent laws and regulations pertaining to cultural resources management. These laws are designed to protect culturally significant properties (NRHP-eligible and -listed properties), as well as the aesthetic quality of the area, by avoiding wanton loss, damage, or alteration. Implementing this alternative would result in multiple benefits including continued integration of the entire USMA cultural resources program with ongoing mission activities by allowing for ready identification of potential conflicts between the missions and cultural resources and by identifying and resolving compliance actions necessary to maintain the availability and historical character of mission-essential properties. Additional benefits would be realized through maintaining the current streamlined cultural resources management process, continuing dialogue and consultation processes with Native American tribes and SHPO, appropriately curating cultural resources collections in accordance with 36 CFR 79, and by promoting USMA stewardship of its cultural resources.

2.5.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Implementing Alternative 1 would provide the minimum benefit to cultural resources. This benefit would be accomplished through basic compliance with Chapter 6, AR 200-1 and, by reference, all

other pertinent laws and regulations pertaining to cultural resources management. Compliance with existing programmatic agreements would continue, but community outreach and interdepartmental collaboration would likely be curtailed. There would be no upgrade to the existing archaeological curation facility. If the cultural resource collection was retained at USMA in the existing facility, full compliance with 36 CFR 79 would not be achieved, potentially resulting in the deterioration of the collection through inadequate record-keeping, care, and management. If the collection was transferred to a commercial repository or another Army installation or Army curation facility, the cost of transportation and curatorial fees would be accrued, USMA staff would acquire oversight responsibilities in addition to their existing duties, and the collection would be less accessible for reference, research, and educational uses.

2.5.2.3 *No Action Alternative*

Implementing the No Action Alternative could result in significant impacts to cultural resources over the long-term. If the ICRMP were not to be implemented, USMA would not be able to comply effectively and efficiently with Chapter 6, AR 200-1 and, by reference, other pertinent laws and regulations pertaining to cultural resources management. This shortcoming could also result in conflicts with the ongoing USMA mission and training activities. Activities such as new facilities construction, building renovation, rehabilitation, demolition, maintenance, repair, and/or any other ground-disturbing activities (including mission training) could potentially affect significant cultural resources. Compliance with Section 106 of the NHPA for routine activities and projects would be more protracted than streamlined, and USMA's ability to respond to inadvertent discoveries, vandalism, and/or looting of archaeological sites could be hindered. Additionally, compliance with Section 110 of the NHPA would be hindered without guidance on the numbers and locations of, and strategy for, identifying historic properties. With respect to the existing cultural resource collection, USMA would be out of compliance with 36 CFR 79, and the collection could potentially suffer deterioration or would need to be transferred from the installation.

2.6 VISUAL RESOURCES

Aesthetic resources consist of the natural and man-made landscape features that appear indigenous to the area and give a particular environment its visual characteristics. Visual sensitivity is a key factor in assessing how important a visual effect may be and whether it represents a significant impact.

2.6.1 Affected Environment

Over the 200-year history of USMA, a careful balance has been intentionally maintained between the man-made and natural environment. The natural environment is characterized by scenic views of the Hudson River, pockets of forested areas, and the rocky and hilly topography of the Hudson Highlands. Set within this backdrop is the USMA, which contains resources that range from Revolutionary War-era archaeological sites and reconstructed fortifications to buildings and structures representing each phase of the USMA's development, as well as new construction such as the Stony Lonesome II housing. Also present are precontact and historic period archaeological resources that are not directly related to the USMA. The architectural styles of the buildings vary according to their period of construction, but Gothic Revival is the dominant design style. Besides

historic buildings, there are many designed landscape components (e.g., parade grounds, athletic fields, and gardens) and monuments throughout the district. These various elements compose a distinct and important military and educational environment of national importance.

The various parade, training, and athletic fields compose another of USMA's defining elements. These include the Plain, Buffalo Soldier Field, and other designed landscapes throughout the Main Post. Monuments and memorials, built as early as 1818, are similarly contributing to the visual environment, as are bridges and dams, some of which are also historic. There are nine landscape features that contribute to the NHLD, and a recent inventory has identified another 13 additional NRHP-eligible historic landscapes within the West Point Military Reservation.

The entire West Point Military Reservation is within the Hudson River Valley National Heritage Area. This area was created by the US Congress in 1996 and is one of only 27 such areas in the US that have such a designation. These designations recognize regions that have nationally significant cultural and natural resources.

2.6.2 Environmental Impacts

Impacts to visual resources are considered significant if they would result in short-term or long-term changes to the overall historical, architectural, aesthetic, or natural character and nature of the historic feature landscapes, aesthetic landscapes associated with historic housing communities, and natural landscapes associated with the Hudson Highlands Scenic Area of Statewide Significance. Impacts to visual resources are considered negligible, minor adverse, moderate adverse, or significant adverse, or beneficial effects. The following sections describe the impacts and beneficial effects on visual resources for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.6.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would benefit USMA's visual and aesthetic resources over the long-term. This benefit would be accomplished through full compliance with Chapter 6, AR 200-1 and, by reference, all other pertinent laws and regulations pertaining to cultural resources management. These laws are designed to protect the aesthetic quality of the area, as well as culturally significant properties, by avoiding wanton loss, damage, or alteration. Implementing this alternative would result in multiple benefits including continued integration of the entire USMA cultural resources program with ongoing mission activities by allowing for ready identification of potential conflicts between the missions and visual resources and by identifying and resolving compliance actions necessary to maintain the availability and historical character of mission-essential landscapes. Additional benefits would be realized through maintaining the current streamlined cultural resources management process, continuing dialogue and consultation processes with Native American tribes and SHPO, and by promoting USMA stewardship of its cultural resources.

2.6.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Implementing Alternative 1 would provide the minimum benefit to visual resources. This benefit would be accomplished through basic compliance with Chapter 6, AR 200-1 and, by reference, all

other pertinent laws and regulations pertaining to cultural resources management. Compliance with existing programmatic agreements would continue, but community outreach and interdepartmental collaboration would likely be curtailed. The potential introduction of unsuitable visual elements would increase since there would potentially be less awareness of the importance of USMA's visual resources.

2.6.2.3 *No Action Alternative*

Implementing the No Action Alternative could result in significant impacts to visual resources over the long-term. If the ICRMP were not to be implemented, USMA would not be able to comply effectively and efficiently with Chapter 6, AR 200-1 and, by reference, other pertinent laws and regulations. This shortcoming could also result in conflicts with the ongoing USMA mission and training activities. Activities such as new facilities construction, building renovation, rehabilitation, demolition, maintenance, and repair, among other activities, could potentially affect significant visual resources. Compliance with Section 106 of the NHPA for routine activities and projects would be more protracted than streamlined, would be less efficient due to lack of coordination of the steps of the Section 106 process, and USMA's ability to respond to unanticipated visual intrusions could be hindered. Additionally, compliance with Section 110 of the NHPA would be hindered without guidance on the numbers and locations of, and strategy for, identifying potentially significant visual resources.

2.7 HEALTH AND SAFETY

Laws and regulations relevant to health and safety include, but are not limited to:

- 29 CFR Part 1926, *Safety and Health Regulations for Construction*;
- 40 CFR 261.2 (c)(1)(B)(ii); *Definition of Solid Waste*;
- The Federal Insecticide, Fungicide and Rodenticide Act, which provides for Federal control of pesticide distribution, sale, and use; registration (license) of all pesticides used in the US by USEPA; and proper labeling and use of pesticides to protect the environment and human health and safety per label directions;
- Lead Contamination Control Act of 1988, which amended the Safe Drinking Water Act to identify and reduce lead in drinking water at schools and day care centers, requires USEPA to provide guidance to states and localities to test for and remedy lead contamination in drinking water in schools and day care centers, and provides specific requirements for the testing, recall, repair and/or replacement of water coolers with lead lined storage tanks or with parts containing lead and attaches civil and criminal penalties for the manufacture and sale or water coolers containing lead;
- Toxic Substances Control Act of 1976 (15 USC §2601 et seq.) provides authority to the USEPA to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures; and addresses production, importation, use, and disposal of specific chemicals including PCBs, asbestos, radon and lead-based paint;
- Federal Occupational Safety and Health Administration regulation 1926.1101(k)(1);
- EO 13693, *Planning for Federal Sustainability in the Next Decade*
- NYS Department of Labor regulations for asbestos abatement;

- AR 200-1 *Environmental Protection and Enhancement*, AR 420-1, *Army Facilities Management*, AR 385–10 *Army Safety Program*, AR 420–76 *Pesticide Management*, and AR 200–5 *Pest Management*;
- Unified Facilities Criteria 4–101–01 *Minimum Antiterrorism Standards for Buildings*; and
- Unified Facilities Criteria 1–200–01 DoD *General Building Requirements*.

2.7.1 Affected Environment

West Point operates and maintains complete public health, emergency response, and security services to serve the West Point community. The Installation provides in- and out-patient medical services as well as ambulance services through the Keller Army Community Hospital and Cadet Health clinic, and has emergency medical response teams, helicopter medical evacuation service, three fire stations, and military police.

2.7.2 Environmental Impacts

Health and safety impacts that result from a project are considered significant if undue risk to human health or life would result from project implementation. Health and safety impacts may range from major impacts such as catastrophic events including loss of life, severe injuries requiring hospitalization, or substantial property damage or loss, to minor impacts such as minor injuries or minor property damage or loss. Impacts may range from short-term (less than 1 year) to long-term (greater than 10 years), prior to returning to pre-impact conditions. Also, the extent of health and safety impacts may be limited to a particular site, localized, or widespread. The following sections describe the impacts and beneficial effects on health and safety for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.7.2.1 *Preferred Alternative*

Implementing the Preferred Alternative could potentially result in undue risk to human health or life. During the construction process of completion of the upgrades to the archaeological curation facility, the potential to encounter asbestos-containing materials (ACM), lead-based paints (LBP) and/or radon exists. Maintaining the cultural resources that are present at the Installation is anticipated to benefit to health and safety at the Installation by ensuring culturally significant properties are maintained in a safe condition over the long-term. Upgrades to the archaeological curation facility is anticipated to occur within the existing building footprint, and upgrade activities are unlikely to require ground disturbing actions, as construction activities are expected to be limited to occurring within the interior of the building. Upgrades to the archaeological curation facility would support better health, safety, and security requirements for occupants working within the building, by ensuring the building is fully compliant with life safety building codes (i.e., fire codes) and Army quality of life standards.

Potentially hazardous materials typically used during construction activities include paints, thinners, asphalt, and motor fuel and oils used for vehicles and equipment. These materials can pose a health and safety risk to workers and the environment if not properly stored and handled. To ensure the health and safety of construction workers and others during construction activities associated with upgrades to the archaeological curation facility that involve these hazardous materials, safety measures outlined in 29 CFR Part 1926, *Safety and Health Regulations for*

Construction, and Army Regulation 385–10, *Army Safety Program*, will be followed. Implementation of the impact minimization and mitigation measures described in this section and summarized in Table 4 will ensure the Preferred Alternative would not result in undue risk to human health or life.

2.7.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not result in undue risk to human health or life. None of the activities associated with implementation of the Alternative 1 would impact health and safety. Continuing to evaluate and monitor identified historic properties through periodic condition assessments has the potential to benefit human health and safety, by ensuring property conditions are maintained in a safe condition over the long-term.

2.7.2.3 *No Action Alternative*

Selecting the No Action Alternative would result in no impact to health and safety, because this alternative would not include any ground disturbing or program implementation activities. However, the selection of the No Action Alternative has the potential to result in negative impacts to health and safety, due to the lack of oversight and maintenance of culturally significant properties over the long-term, causing structures to fall into a state of disrepair and result in unsafe conditions for human-access, as well as leaving potentially unsafe conditions to continue within the current archaeological curation facility (i.e., presence of ACM and/or radon).

2.8 NOISE

Laws and regulations relevant to noise include, but are not limited to:

- The Noise Control Act of 1972 (PL 92-574); and
- Village of Highland Falls noise ordinance (Village of Highland Falls §143-2).

2.8.1 Affected Environment

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's *quality of life*, such as construction or vehicular traffic.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz are used to quantify sound frequency. The human ear responds differently to frequencies. "*A-weighing*", measured in A-weighted decibels (dBA), approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their dBA levels are provided in Table 2.

Table 2. Common Sounds and Their Levels.

Outdoor	Sound Level (dBA)	Indoor
Motorcycle	100	Subway train
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringing
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator
Quiet residential area	40	Library

Source: Harris 1998

The dBA noise metric describes steady noise levels, although very few noises are, in fact, constant. Therefore, A-weighted day-night sound level has been developed. Day-night Sound Level (DNL) is defined as the average sound energy in a 24-hour period with a 10-dB penalty added to the nighttime levels (10 p.m. to 7 a.m.). DNL is a useful descriptor for noise because: (1) it averages ongoing yet intermittent noise, and (2) it measures total sound energy over a 24-hour period. In addition, equivalent sound level (L_{eq}) is often used to describe the overall noise environment. L_{eq} is the average sound level in dB.

The Noise Control Act of 1972 (PL 92-574) directs Federal agencies to comply with applicable Federal, state, and local noise control regulations. In 1974, the USEPA provided information suggesting that continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals. The Village of Highland Falls noise ordinance restricts construction and demolition noise to daytime hours, Monday through Saturday (Village of Highland Falls §143-2). Neither NYS nor Orange County maintain noise ordinances.

Existing sources of noise include local road traffic, aircraft overflights, rotorcraft (helicopter) activities, and natural noises such as the rustling of leaves and bird vocalizations. Training exercises at West Point include helicopter activities at the helipad and drop zones, small arms firing, large caliber weapons, and demolitions (USAG West Point 2011a). A rail spur is also located in the South Post area of the Installation, and travels along the Hudson River directly through the Installation.

2.8.2 Environmental Impacts

Noise is considered unwanted sound that can disturb routine activities (e.g., sleep, conversation, student learning) and can cause annoyance.

The following sections describe the impacts and beneficial effects on noise for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.8.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not result in significant noise impacts. None of the proposed management actions are expected to generate substantial noise. Upgrades to the archaeological curation facility is anticipated to occur within the existing building footprint, and associated noise from construction activities are largely anticipated to be limited to inside the building and be limited to the short-term period associated with the construction upgrades. Upgrades to the archaeological curation facility may include renovation of heating, ventilation and air conditioning equipment using the best available technology and has the potential to reduce the levels of interior noise within the building over the long-term.

2.8.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not result in significant noise impacts and would be lower in comparison to the Preferred Alternative since construction noise associated with upgrades to the archaeological curation facility would not occur. None of the activities associated with implementation of the Alternative 1 would generate substantial noise.

2.8.2.3 *No Action Alternative*

Under the No Action Alternative, current management measures for cultural resources would remain in place. Implementing the No Action Alternative would not be expected to have any effect on the noise environment.

2.9 TRAFFIC AND TRANSPORTATION

Laws and regulations relevant to traffic and transportation include, but are not limited to EO 13693, *Planning for Federal Sustainability in the Next Decade*.

2.9.1 Affected Environment

Transportation in and around West Point is achieved mainly via road and street networks, pedestrian walkways, trails, and bike paths. The transportation system serves West Point traffic consisting of everyday work, living, and recreational trips. West Point also is the third most visited tourist attraction in NYS as well as attracting civilian participation at West Point sporting events.

On-Post Roadways and Gate Traffic. Access to the Main Post is provided through four gates. Thayer Gate is the main entrance and provides access from the south via US Route 9W/NYS Route 218. Stony Lonesome Gate is on the south-central edge of the Main Post and provides access from the west and south via US Route 9W/NYS Route 218. Washington Gate, considered the "back entrance", is in the northwest portion of the Main Post and provides access from the north via NYS Route 293. This gate has restricted access to DoD identification card and decal holders. Lee Gate is on the north edge of the Main Post and has been used for access from the north via NYS 218.

Off-Post Roadways. Several major highways serve the West Point area. Direct access to the Main Post is by US Route 9W and NYS Route 218. Interstate (I-) 84 is approximately 15 miles (24 kilometers) north of the Main Post while I-87 is approximately 9 miles (14 kilometers) to the west.US Route 6 is south of the Installation. It provides an east-west connection between I-87 and

US Route 9W and the Palisades Interstate Parkway (PIP) to the east. PIP begins 5 miles (8 kilometers) south of the Main Post and leads to I-287. East of the PIP on I-287 is the Tappan Zee Bridge, which provides access to New York City. West of the PIP on I-287 is the terminus for the Garden State Parkway.

Air, Rail, and Public Transportation. The closest airport to West Point is Stewart International approximately 30 minutes travel time from West Point, which provides commercial and passenger air service to the Hudson Valley region. A rail spur is located behind the West Point Museum, which provides commercial service by Conrail Shared Assets Operations and travels along the Hudson River through the Installation (USAG West Point 2011a). The closest Amtrak passenger rail service is Croton-Harmon Station approximately 15 miles (24 kilometers) south of West Point. Coach bus service is available at the Croton-Harmon Amtrak station, which provides bus service to West Point (Coach 2023). Orange County does not have public transportation, but the Coach bus service covers routes traveling to most cities in NYS. Parking capacity at West Point is appropriate for existing demand. Barracks and larger facilities have dedicated parking lots, and parallel parking is provided on many streets. Pedestrian traffic is accommodated by a system of sidewalks along many streets and walkways between buildings. Troop pathways are provided between foot traffic high-volume areas.

2.9.2 Environmental Impacts

The following sections describe the impacts and beneficial effects on traffic and transportation for the Preferred Alternative, Alternative 1, and the No Action Alternative

2.9.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not result in significant traffic or transportation impacts. None of the proposed management actions are expected to affect traffic flow or patterns or impact existing transportation resources. Upgrades to the archaeological curation facility is anticipated to result in a minor increase in traffic from construction personnel; however, construction activities are expected to be staggered through the renovation period such that the increase in construction traffic accessing the Installation on a daily basis would be low. The overall increased level of traffic associated with the construction of the facility would be very small when compared to existing traffic on surrounding roadways. Since the roadways approaching the site are free-flowing and below capacity, these impacts would be minor and would not appreciably affect any nearby roadways or intersections.

2.9.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not result in significant traffic or transportation impacts and would be lower in comparison to the Preferred Alternative since the minor increase in construction traffic associated with upgrades to the archaeological curation facility would not occur. None of the activities associated with implementation of the Alternative 1 would affect traffic flow or patterns or impact existing transportation resources.

2.9.2.3 *No Action Alternative*

Selecting the No Action Alternative would result in no impact on existing traffic or transportation resources. Transportation resources would remain as described in Section 2.9.1.

2.10 UTILITIES AND INFRASTRUCTURE

Laws and regulations relevant to utilities and infrastructure include, but are not limited to:

- Solid Waste Disposal Act of 1976;
- Energy Policy Act of 2005 (PL 109–58), which aims to combat growing energy problems, and changed US energy policy by providing tax incentives and loan guarantees for energy production of various types; and
- The Energy Independence and Security Act of 2007 (PL 110-140), which is a US energy policy that strives to provide greater energy independence and security for the US; increase production of clean renewable fuels; protect consumers; increase the efficiency of products, buildings, and vehicles; promote research on and deploy greenhouse gas capture and storage options; and improve the energy performance of the Federal Government.

2.10.1 Affected Environment

Utility services that serve West Point include water, wastewater, gas, electricity, and communications. The utility components discussed in this section include electricity and distribution lines, communications, water supply, stormwater drainage, natural gas, heating and cooling systems, wastewater treatment, and solid waste management. West Point is currently near 95% capacity for wastewater treatment and energy usage.

2.10.1.1 *Electricity and Distribution Lines*

Electricity at West Point is provided by Orange and Rockland Electric. The electrical distribution system is composed of primary and secondary overhead and underground distribution lines, transformers, regulators, substation switchgear, oil and air switchgear, and switching cabinets. Electricity enters the Main Post at two main locations via 34.5-kilovolt lines that are then transformed into 13.8- and 4.16-kilovolt lines. Electricity for Camp Buckner and Camp Natural Bridge is provided through overhead power lines that connect to the Orange and Rockland Dean Substation near NYS Route 293 and Mine Road. In 2011 West Point's total megawatt hours (MWh) of energy usage was identified as approaching the limit of electrical capacity the utility provider could provide. To address the existing 34.5 kilovolt transmission loop line that is nearing capacity, Orange & Rockland Electric is planning to upgrade the Woodbury to Highland Falls and USAG West Point Transmission Line, located between the Villages of Highland Falls and Woodbury, which include portions of the line that are located on the Installation. The proposed project consists of building a new double-circuit transmission line for approximately 12 miles (19 kilometers). The line will be constructed to 138 kilovolt standards, but will initially be operated at 69 kilovolts, originating in the Woodbury Transition Yard and extending to the vicinity of Orange & Rockland's existing Highland Falls Substation, as well as USAG West Point's West Point 1 and West Point 2 Substations (Orange & Rockland Electric 2023). In addition to increasing capacity, this project will improve system reliability.

2.10.1.2 *Communications*

Communications systems at West Point include telephone, fire alarm, security, fire, and cable. Telephone service is provided by Verizon, but all infrastructure is owned by the Army. Many of the buildings are connected to fiber optic cables. The Gamewell fire alarm and security systems use these cables. Cable television is provided through three services operated by a local cable company (USAG West Point 2011a).

2.10.1.3 *Domestic Water*

Section 2.1.1.3 describes the domestic water supplies for West Point.

2.10.1.4 *Stormwater Drainage System*

USAG West Point currently holds a National Pollutant Discharge Elimination System (NPDES) permit (Municipal Storm Sewer System General Permit) which requires only stormwater be discharged, and prohibits introduction of pollutants into the stormwater system. Stormwater from the cantonment area drains into Crow's Nest Brook, Highland Brook, Kinsley Farm Brook, Dassori Pond—or through open channels or pipes, catch basins, and swales—all eventually emptying into the Hudson River (USAG West Point 2011a). Storm drainage on Camps Buckner and Natural Bridge, and on the firing ranges throughout the West Point Military Reservation, proceeds via natural swales, man-made ditches, and storm pipes where roads cross drainage ditches. Water from Camps Buckner and Natural Bridge is discharged into Popolopen Lake. Stormwater from the South Post area discharges to the Hudson River. Section 2.1.1.6 provides additional information on stormwater runoff and water quality.

2.10.1.5 *Natural Gas*

Central Hudson Gas & Electric Company supplies natural gas to West Point. The gas distribution system consists of high-, medium-, and low-pressure lines and includes approximately 200 regulators, and 13 regulator stations for approximately 27 miles (43 kilometers) of lines (USAG West Point 2011a). The pressure in the lines range from 0.5 pounds per square inch to as high as 120 pounds per square inch. Natural gas on the Installation is used for the steam plant boilers, cooking, domestic hot water generation, residential heating, and the laundry plant. Some outlying buildings use liquid petroleum gas.

2.10.1.6 *Heating and Cooling System*

Heat for most Main Post buildings is provided through a central plant in Building 604. This plant consists of three natural gas boilers and three steam-turbine-driven generators. A natural gas-fired steam plant in Building 845 serves the Post Laundry, Keller Army Community Hospital, and several other surrounding buildings. Steam for centrally heated buildings is distributed under pressure through piping in a combination of underground tunnels and buried piping. Buildings outside the reach of the central steam distribution system are heated by individual steam hot water or air systems (USAG West Point 2011a).

2.10.1.7 *Wastewater Treatment*

Sanitary sewer lines consist of buried sewer collection and main lines, pumping stations, and treatment plants. West Point operates two wastewater treatment systems and plants, including the Target Hill Wastewater Treatment Plant discharges to the Hudson River), which serves a majority of the Installation; and Camp Buckner Wastewater Treatment Plant, which serves Camp Buckner and Camp Natural Bridge (discharges to the Popolopen Creek) (USAG West Point 2011a). Sanitary sewage from the Main Post area discharges to the Village of Highland Falls Wastewater Treatment Plant.

2.10.1.8 *Solid Waste Disposal*

The West Point Transfer Station and Recycling Center, NYDEC Permit No. 3333600063000001, is located off NYS Route 293. The station is a government owned contractor operated facility, which provides service to West Point and the local communities of Highland Falls and Fort Montgomery (USMA West Point 2012). Recycling is required by law in NYS, and all residents of West Point are encouraged to utilize recycling containers located throughout the Installation, drop off recyclable materials at locations managed by the West Point Recycling Program, and use curb-side recycling in their communities.

2.10.2 Environmental Impacts

The following sections describe the impacts and beneficial effects on utilities and infrastructure for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.10.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not result in significant impact to utilities or infrastructure. None of the proposed management actions are expected to negatively affect utility usage or demands. Upgrades to the archaeological curation facility may include renovation of heating, ventilation and air conditioning equipment; and other equipment and appliances that utilize the best available technology. Upgrading these systems and equipment has the potential to reduce energy demands currently realized for the building. The infrastructure of the building would be improved as part of the upgrades as well. No new service connections are anticipated to be required. The Preferred Alternative is anticipated to provide a benefit to energy demands over the long-term, which would be lower and more efficient as a result of replacing current equipment with energy saving appliances and building systems.

2.10.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not result in significant impact to utilities or infrastructure. No benefit to energy demands would not be realized as upgrades to the archaeological curation facility would not occur. None of the activities associated with implementation of the Alternative 1 would affect utilities or infrastructure.

2.10.2.3 *No Action Alternative*

No impacts on utility systems would be expected from implementing the No Action Alternative, under which the environmental baseline would not change. Mechanical systems would not be upgraded. Utility and infrastructure conditions would remain as described in Section 2.10.1.

2.11 MATERIALS AND WASTE

Laws and regulations relevant to materials and wastes include, but are not limited to:

- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980;
- The Community Environmental Response Facilitation Act, which amended the Comprehensive Environmental Response, Compensation, and Liability Act, requiring the Federal Government, before termination of Federal activities on any real property owned by the Government, to identify real property where no hazardous substance was stored, released, or disposed of;
- 29 CFR Part 1926, *Safety and Health Regulations for Construction*;
- Resource Conservation and Recovery Act, which is the primary Federal statute regulating the control of and disposal of solid and hazardous waste, and includes obtaining permits, identifying and listing hazardous waste, adhering to proper procedures when transporting or disposing of waste, developing risk management plans, maintaining records, and requirements for underground storage tanks;
- The Federal Facility Compliance Act of 1992, amended the Resource Conservation and Recovery Act, and contains specific restrictions on hazardous waste land disposal, including treatment standards that must be met before hazardous waste is stored or disposed;
- Hazardous Material Transportation Act, which provides protection against the risks to life and property inherent in the transportation of hazardous material in commerce by improving the regulatory and enforcement authority of the Secretary of Transportation;
- Pollution Prevention Act of 1990, which is intended to prevent and reduce pollution at the source whenever feasible; recycling of pollution in an environmentally safe manner for pollution that cannot be prevented; and disposal or other release into the environment of pollution only as a last resort and conducted in an environmentally safe manner;
- Solid Waste Disposal Act of 1976;
- EO 12088, Federal Compliance with Pollution Control Standards;
- EO 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements;
- EO 12873, Federal Acquisition, Recycling, and Waste Reduction;
- ARs, including Army, Housing and Urban Development, and Occupational Safety and Health Administration guidelines; and Army Engineering and Housing Support Center Technical Note 420–70–2, *Lead-Based Paint: Hazard Identification and Abatement*; and

- Army Engineering and Housing Support Center Technical Note 420–70–2, *Lead-Based Paint: Hazard Identification and Abatement*.

2.11.1 Affected Environment

The Comprehensive Environmental Response, Compensation, and Liability Act, Section 120 (h), as amended by the Community Environmental Response Facilitation Act (PL 102-426), requires the Federal Government to identify real property where no hazardous substance was stored, released, or disposed of, before termination of Federal activities on any real property owned by the Government.

USAG West Point generates non-hazardous and hazardous wastes through the course of normal operations, and has implemented procedures for recycling and properly disposing of various types of waste. USAG West Point also has several policies regarding disposal of construction and demolition materials and other construction related wastes, as well as an Integrated Solid Waste Management Plan (USMA West Point 2012). The Army has an overall goal of diverting at least 50%of construction and demolition waste from landfills by reuse or recycling.

Non-hazardous wastes generated at West Point are collected and delivered to the West Point Transfer Station off of NYS Route 293, prior to being disposed of off-site at an approved landfill. Recycling is required by law in NYS, and all residents of West Point are encouraged to utilize recycling containers located throughout the Installation, drop off recyclable materials at locations managed by the West Point Recycling Program, and use curb-side recycling in their communities. The hazardous waste program at West Point is managed by the Environmental Management Division. Activities generating hazardous waste are required to comply with established West Point policies, including the West Point Hazardous Waste Management Policy. Hazardous materials currently used and/or present at West Point include hazardous, toxic, and/or infectious wastes generated from Keller Army Community Hospital, automotive repair shops, pest control activities (see Section 2.7, Health and Safety), the Department of Chemistry, the West Point Elementary School, and the USMA Band. The Environmental Management Division at West Point is responsible for managing the hazardous waste program, and provides oversight to ensure that all hazardous substances are handled in accordance with USEPA, NYSDEC, and ARs; stored and handled according to West Point's Health and Safety plan; and monitored on a regular basis. West Point coordinates with the Defense Logistics Agency to dispose of hazardous wastes at NYS-licensed offsite disposal facilities. Any hazardous material spills that occur at West Point are reported, contained, and remediated in accordance with NYSDEC regulations, ARs, and West Point's Installation Spill Contingency Plan (US Army Institute of Public Health 2011). Adherence to West Point's Spill Prevention Control and Countermeasure Plan is required for sites that store petroleum or other hazardous materials in 55 gallon drums or larger. Spills that have the potential to impact the environment must be reported to West Point's Environmental Management Division immediately.

No National Priorities List sites are located at West Point. West Point's Environmental Restoration Program is responsible for investigating and remediating environmental contamination that resulted from past practices. There are 15 former landfills and 14 former ranges included in the program. Remediation of the landfills is addressed thru the Installation Restoration Program while the ranges are managed thru the Military Munitions Response Program (USAG West Point 2011a).

Unexploded ordnance is a hazard associated with inactive artillery impact areas, and unexploded ordnance are known to have been inadvertently deposited outside designated artillery impact areas. At West Point, active and former artillery impact areas are located along the northwest boundary of the Main Post/Academic Area, and within range and TAs and dud zones located in the West Point Military Reservation.

2.11.2 Environmental Impacts

The following sections describe the impacts and beneficial effects on materials and waste for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.11.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not result in significant materials or waste impacts. Upgrades to the archaeological curation facility is anticipated to result in a short-term minor impacts due to an increase in demand for materials and resulting waste for disposal from replacement of equipment and building materials as part of the building upgrades. Implementation of the impact minimization and mitigation measures described in this section and summarized in Table 4 will ensure the Preferred Alternative would not result in significant materials or waste impacts.

2.11.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Implementation of Alternative 1 would not result in impact to materials and waste. Upgrades to the archaeological curation facility would not occur under this alternative and as such there would be no increase in material and waste demands. None of the activities associated with implementation of the Alternative 1 would affect material and waste.

2.11.2.3 *No Action Alternative*

No impacts on materials and waste would occur from implementing the No Action Alternative, under which the environmental baseline would not change.

2.12 LAND USE

Laws and regulations relevant to land use include, but are not limited to:

- The Federal Land Policy and Management Act (USC Title 43, PL 94–579) governs the way public lands administered by the Bureau of Land Management are managed through land use planning, land acquisition, fees and payments, administration of Federal land, range management, and rights-of-way on Federal land;
- The National Trails Systems Act (PL 90-543, as amended through PL 111-11, March 30, 2009; and USC Volume 16, §1241-1251), which established a national trails system, and trails for other purposes; and
- EO 11307, *Coordination of Federal Programs Affecting Agricultural and Rural Area Development*.

2.12.1 Affected Environment

West Point is in Orange County, New York. The Installation covers 15,700 acres and historically was used for tree harvesting, agriculture, and settlement. During the 19th and 20th centuries, much of the land was deforested to provide timber to the charcoal and brick industries in the region (USAG West Point 2011a). The land was acquired by the US government in the 1930s and 1940s, and since that time have been used to support the military mission of USAG West Point. Most of the land at the Installation is used to support field training and maneuvering and is undeveloped.

West Point contains four land use zones, including Cadet, Cadet Support, Post Support; and Recreational, Industrial and Field Training (USAG West Point 2011a). Uses within these zones include:

- Cadet – Academic, intramural athletic, billeting, and parading. The center of the Cadet zone is Washington Hall. This zone is designed to allow access to anything within the zone within a 10 minute walk from the center.
- Cadet Support – Intercollegiate athletic fields and some Cadet support facilities.
- Post Support – Housing, commercial, and service support to staff and faculty, non-West Point military personnel, and military retirees.
- Recreational, Industrial, and Field Training – Building and storage area support for industrial operation, field TAs, recreation areas, and open space.

Main Post. Land use in the Main Post area is highly developed, with some areas considered undevelopable due to steep slopes. This area contains a majority of the buildings and structures, including, but not limited to, housing and shopping areas, a gas station, and a fire station. For planning purposes, Land uses on the Main Post include academic, administrative, limited military field training, recreation, facility support and residential. A golf course, ski area and USMA Preparatory School are located on the Main Post.

Ranges and Training Areas (TAs). Military training of Cadets is conducted on 48 TAs, 14 live fire ranges, one artillery range, one mortar range, and one mortar firing point on over 14,000 acres of land. Most of the ranges direct weaponry into the approximately 963 acres of land on the reservation that are designated as a permanent impact/dud danger area. Several areas of the Installation are Training Exempt Areas (TEAs) (see Figure 7 for TEAs and other areas not identified with a training area letter that represent TEAs). Several TEAs are off-limits to most training activities because of cultural, historical and/or wildlife resources that occur there. Crow's Nest (see Figure 7) is a dud danger zone located in the northern part of the Installation and a designated off-limits area due to it's past use as an impact area for artillery fire (USAG West Point 2011a).

The area surrounding West Point is dominated by residential, agricultural, and recreational land uses. Other land uses located adjacent to the Installation include Black Rock Forest and Storm King State Park (in the Towns of Cornwall and Highlands) to the north; the Hudson River to the east; Highland Falls, Fort Montgomery, and Bear Mountain/Harriman State Park in the Town of Highlands to the south; and Mineral Springs and Smith Clove Roads (in the Town of Woodbury) to the west (USAG West Point 2011a). Constitution Island is bordered by the Hudson River to the

west and Metro North Railroad and a National Audubon Society marshland to the east.

2.12.2 Environmental Impacts

The following sections describe the impacts and beneficial effects on land use for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.12.2.1 *Preferred Alternative*

Implementing the Preferred Alternative would not affect land use. No incompatible land uses would be created on the Installation or surrounding properties as a result of implementing the ICRMP. West Point land uses would benefit from the Preferred Alternative over the long-term through the continued evaluation and monitoring of identified historic properties through periodic condition assessments, that will ensure that maintaining cultural resources at the Installation do not impact or interfere with the military mission.

2.12.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Similar to the Preferred Alternative, implementation of Alternative 1 would not affect land use. No incompatible land uses would be created on the Installation or surrounding properties as a result of partial implementation of the ICRMP. West Point land uses would benefit from Alternative 1 through the continued evaluation and monitoring of identified historic properties through periodic condition assessments, to ensure that maintaining cultural resources at the Installation do not impact or interfere with the military mission.

2.12.2.3 *No Action Alternative*

Potential adverse impacts on land use would be expected from the No Action Alternative. The Proposed Action would not be implemented and there would be no change in land use; however, implementation of the No Action Alternative could potentially create situations of conflicting land use between the Installation mission and the identification of cultural resources sites, as well as an increased potential for the destruction of cultural resources sites due to inadequate knowledge of their location or inadequate planning for cultural resources preservation. Additionally, a gap in identification or cataloging all the cultural resources or potential historic properties on the Installation, could result in the USMA to be in noncompliance with various Federal statutes and regulations, such as Section 110 of the NHPA, concerning the management of historic properties.

2.13 SOCIOECONOMICS

Socioeconomic impacts include those to business volume, income, employment, population; and impacts to minority and low-income communities as specified in the EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations* (dated 11 February 1994). Impacts to environmental justice resulting from the Project are discussed in Section 2.16.1 (*Environmental Justice*).

2.13.1 Affected Environment

This section describes the socioeconomic environment of the region of influence (ROI) surrounding West Point. An ROI is a geographic area selected as a basis on which socioeconomic impacts of project alternatives are analyzed. The ROI for the socioeconomic environment is defined as Orange County, New York. Data for NYS and the US are presented for comparative purposes.

Employment. The total percentage of civilian labor force of those 16 and older within the ROI was 62.7% between 2017 and 2021, compared to the NYS labor force at 62.9% and the national labor force at 63.1% (US Census Bureau [USCB] 2022a, b, c)The ROI unemployment rate as of April 2023 was 2.4%, whereas the NYS unemployment rate for April 2023 was 4.0% (NYS Department of Labor 2023). Compare to the national unemployment rate of 3.4% for April 2023 (US Bureau of Labor Statistics 2023), these regional unemployment rates are similar.

Income. The ROI per capita personal income (PCPI) for the period of 2017-2021 was $37,651, which was 87% of the NYS level PCPI of $43,208 and 99.9% of the national PCPI of $37,658. The ROI median household income of $85,640 was 114%of the NYS median household income of $75,157 and 124% of the national median household income of $69,021 (USCB 2022a, b, c).

Population. The ROI's 2020 population was 401,324, an increase of about 28,511 persons since 2010. The ROI's population growth of 7% was higher than the NYS population growth of 4% and approximately the same as the national population growth of 7% (USCB 2022a, b, c). Orange County is one of the fastest growing counties in New York. The county's population growth between 2020 and 2022 was tied for fourth with Schoharie County, behind Sullivan, Schenectady, Saratoga, and Otsego counties (USCB 2022d).

2.13.2 Environmental Impacts

The following sections describe the impacts and beneficial effects on socioeconomics for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.13.2.1 *Preferred Alternative*

Implementing the Preferred Alternative is anticipated to have a short-term, minor benefit on socioeconomic resources in the ROI. A minor increase in spending and employment would result from upgrades to the archaeological curation facility, as well as from any cultural resources surveys conducted as a result of implementation of the ICRMP. No unacceptable change in personal income or loss of employment opportunities, or negative effects on minority and/or low income populations would result from implementation of the Preferred Alternative.

2.13.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Implementing Alternative 1 is not anticipated to impact socioeconomic resources. No benefit to socioeconomic resources in the ROI would be realized, as identified for the Preferred Alternatives, as the benefits from a minor increase in spending and employment would not result as upgrades to

the archaeological curation facility would not occur. No unacceptable change in personal income or loss of employment opportunities, or negative effects on minority and/or low income populations would result from implementation of Alternative 1.

2.13.2.3 *No Action Alternative*

No economic impacts would be expected from implementation of the No Action Alternative. None of the proposed Project activities would be implemented under the No Action Alternative.

2.14 COASTAL ZONE

Laws and regulations relevant to coastal zone resources include, but are not limited to:

- Coastal Zone Management Act of 1972, Section 307(c) (1) and (2) and 15 CFR 930.35 (d);
- Coastal Zone Reauthorization Amendments of 1990, Section 6217, which addresses nonpoint pollution problems in coastal waters as part of state Coastal Nonpoint Source Pollution Control Programs;
- Estuary Protection Act (16 USC 1221-1226, PL 90-454, August 3, 1968; 82 Stat. 625) provides for conservation of coastal zone, and authorizes the Secretary of the Interior, in cooperation with other Federal and state agencies, to study and inventory estuaries of the US, including land and water of the Great Lakes, and to determine whether such areas should be acquired by the Federal Government for protection; and
- Marine Protection, Research, and Sanctuaries Act.

2.14.1 Affected Environment

West Point is located within a NYS-designated coastal zone management area that is associated with the Hudson River. Therefore, development projects must be evaluated for consistency with the 44 NYSDOS Coastal Management Program (CMP) State Coastal Policies, which are designed to promote the beneficial use of coastal resources, prevent their impairment, or address major activities that substantially affect numerous resources. The policies are grouped together to address issues related to development, fish and wildlife resources, flooding and erosion hazards, general issues, public access, recreation, historic and scenic resources, agricultural lands, energy and ice management, water and air resources, and wetlands in NYS-designated coastal zone areas (NYSDOS 2017). Furthermore, pursuant to 15 CFR Part 930.36(b), the NYSDOS CMP must be notified of a project's consistency with State Coastal Policies at least 90 days prior to implementation of the project. To ensure that a proposed project is consistent with NYSDOS' State Coastal Policies and will have no undue adverse impacts on NYS coastal zone resources, West Point must coordinate and consult with the NYSDOS CMP and other agencies. For specific projects related to implementation of the ICRMP, an evaluation of the individual project(s) would be required to submit to NYSDOS CMP.

2.14.2 Environmental Impacts

Environmental impacts in the coastal zone that result from a project are considered significant if coastal resources—including fish and wildlife, historic and scenic, public access and recreation, and water and air resources—are unduly impaired as a result of project implementation. Impacts may range from short-term (less than 1 year) to long-term (greater than 10 years) prior to returning to pre-impact conditions. Also, the extent of impacts to coastal resources may be widespread, localized, or limited to a particular site.

The following sections describe the impacts and beneficial effects on the coastal zone for the Preferred Alternative, Alternative 1, and the No Action Alternative.

2.14.2.1 *Preferred Alternative*

Implementing the Preferred Alternative is not anticipated to affect the coastal zone or coastal resources. Construction activities associated with the upgrades to the archaeological curation facility are anticipated to occur within the existing building footprint, and be limited to activities conducted inside the building itself. No ground disturbing actions are anticipated to be required to implement the building upgrades. No impact to the coastal zone would occur as a result of implementing the Preferred Alternative.

2.14.2.2 *Alternative 1 Partial Implementation of the ICRMP*

Implementing Alternative 1 is not anticipated to impact the coastal zone or coastal resources. No ground disturbing activities would be required to partially implement the ICRMP. No impact to the coastal zone would occur as a result of implementing Alternative 1.

2.14.2.3 *No Action Alternative*

No significant adverse impacts on coastal zone would be expected from the No Action Alternative. The Proposed Action would not be implemented and there would be no change related to development, fish and wildlife resources, flooding and erosion hazards, general issues, public access, recreation, historic and scenic resources, agricultural lands, energy and ice management, and water and air resources in NYS-designated coastal zone areas.

2.15 CUMULATIVE IMPACTS

Cumulative impacts are the result of a proposed action being added to the effects of other past, present, and Reasonably Foreseeable Future Actions (RFFAs), regardless of the agency or person responsible for such actions. This section provides a summary of cumulative impacts associated with the Project in relation to other RFFAs, recently completed, and ongoing projects at West Point. This section addresses only those resources subject to cumulative environmental impacts, whereas “no impact” issues are not addressed.

2.15.1 Recent Past, Ongoing, or Foreseeable Future Projects in the Vicinity

This section takes the approach (consistent with other USAG WP EAs) of considering USAG WP projects together, to evaluate the potential cumulative impacts of the various USAG WP activities in the region.

The following is the list of projects at West Point that have been recently completed, are ongoing, or represent reasonably foreseeable future actions. With the exception of Cragston Dam, all of these projects are located in the Main Post area of the Installation.

- Thayer Hall Rehabilitation (Academic Buildings Upgrade Program) - Rehab of NHLD-contributing building.
- Washington Hall Rehabilitation (Academic Buildings Upgrade Program) - Rehab of NHLD-contributing building.
- Taylor Hall Rehabilitation (Academic Buildings Upgrade Program) - Rehab of NHLD-contributing building.
- Arvin Gym Upgrades - repairs and an addition to an NHLD-contributing building.
- Cadet Uniform Factory Upgrades - repairs and upgrades to an NHLD-contributing building.
- Fort Putnam Repairs - repairs to Revolutionary War fortification.
- Revolutionary War Fortifications Reconstructions - Proposed reconstruction and repair of multiple dry-laid stone masonry fortifications.
- Lower Cragston Dam Decommissioning - decommissioning of a NR-eligible dam outside of the NHLD.
- NHLD Nomination Update – ongoing effort to update the USMA NHLD documentation.

2.15.2 Potential Cumulative Impacts

The principal environmental resources affected by the Preferred Alternative that may contribute to potential cumulative impacts include health and safety, and materials and waste. Beneficial cumulative effects on water resources, geology and soils, natural resources, cultural resources, visual and aesthetic resources, health and safety, utilities and infrastructure, land use, and socioeconomic resources also are expected.

2.15.2.1 *Health and Safety Impacts*

The Proposed Action has the potential to results in health and safety impacts to human life due to the potential for ACM, LBP, and radon to be encountered during construction activities associated with upgrades to the archaeological curation facility.

2.15.2.2 *Materials and Waste Impacts*

The Proposed Action would require a minor, short-term increase in demand for materials and associated waste disposal from replacement of equipment and building materials as part of the

upgrades for the archaeological curation facility. Additionally, construction activities will involve use of hazardous materials such as solvents, lubricants, sealants, adhesives, petroleum products, paints, and stains. Five of the nine projects identified in Section 2.15.1 also are associated with building rehabilitation and/or upgrades and have the potential to appreciably result in cumulative impacts to materials and waste.

2.16 ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

2.16.1 Environmental Justice

In accordance with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations (11 February 1994), Federal agencies are required to identify and address the potential for disproportionately high and adverse environmental and human health effects on minority and low-income populations resulting from the agencies' programs, policies, and activities. Implementation of the Preferred Alternative is not expected to have a disproportionately high or adverse environmental or human health impact on minority and low-income populations.

A ROI is a geographic area selected as a basis on which social and economic impacts of project alternatives are analyzed. The ROI for USAG West Point is defined as Orange County, New York. According to the US Census Bureau (USCB), the estimated 2022 population of Orange County was 405,941 (USCB 2022a). The Village of Highland Falls had a population of 3,829 in 2019 (City-Data.com 2023a).

According to EO 12898, minority populations exist where the percentage of minorities exceed 50%, or where minorities are meaningfully greater than the general population. According to the 2020 Census, minority populations (those not listed as "White – not Hispanic") composed 38.9% of the ROI's total population, which is lower than both the NYS minority population of 45.3% and the national minority population of 40.7% (USCB 2022a, b, c). American Indians composed 0.9% of the ROI's total population, which is slightly lower than the NYS Indian and Alaska Native Persons population of 1.0% as well as the national occurrence of 1.3% (USCB 2022a, b, c). Approximately 48% of the population of the Village of Highland Falls was listed as a minority, with the largest minority group (Black) representing approximately 21.5% of the total Village population (City-Data.com 2023a). The Village of Highland Falls is composed of three census tracts—the closest of which is Tract 137. According to the 2020 Census, minorities comprised just 40.3% of the population within the tract (US Census 2020). Therefore, there was no minority population within the Village or nearest census tract, as defined by EO 12898.

The poverty rate in the ROI, Orange County, is 12.2%, which is lower than the NYS poverty rate of 13.9% and higher than the national poverty rate of 11.6% (USCB 2022a, b, c). The estimated percentage of residents with incomes below the poverty level in 2021 in the Village of Highland Falls was 8.6% (City-Data.com 2023b).

USMA, which does not use quotas in its admissions process, has developed and undertaken strategies to meet its goal to graduate officers that more closely resemble the racial makeup of the Army (in 2009, nearly 63% of the total Army population was white, compared with 75% of USMA's student body) (James 2009a). Beginning in 2010, USMA made the entire admissions

application available online to assist with minority outreach and also created a recruiting video targeting minority students (James 2009b). Admissions officials also work to build stronger relationships among minority members of Congress (the application requires a nomination from a US senator or representative). USMA staff meet with minority caucus members on Capitol Hill to discuss the application process, which have improved African-American nominations and Congressional Black Caucus nominations since 2010. The class of 2013 recruited a record number of minorities into its incoming class of 1,300 Cadets including as many as 91 African American and 127 Hispanic undergraduates (James 2009a). All military housing is mixed residential—minority and low-income Cadets and military members are integrated as part of the general population at West Point.

Although military housing is the only type of housing available at USAG West Point, low-income housing is available in the Village of Highland Falls located immediately south of the South Post area of USAG West Point. The nearest low-income housing community, Weyant Green, is located off West Point Highway on Webb Lane in Highland Falls, New York, just outside the boundary of the South Post area of the Installation. Weyant Green consists of 51 units, including 40 one-bedroom units exclusively for seniors and 10 two-bedroom units for low income and middle income families (Related 2023).

In an effort to ensure effective public participation and access to information, a Notice of Availability was published in local newspapers at the start of the public comment period for the Draft EA, hardcopies of this document made available at local libraries, and both hardcopies and electronic copies distributed to interested parties (see Section 6.0). Public comments received on the Draft EA will be located in Appendix C once available.

2.16.2 Energy Requirements and Conservation Potential of Various Alternatives and Mitigation Measures

Energy requirements of the alternatives are described in Section 2.10.2. USAG West Point is both required and committed to conserving electricity and other forms of energy. For instance, USAG West Point has a strategic plan for meeting and/or exceeding current Federal mandates for energy and water use called the Comprehensive Energy and Water Management Plan (USAG West Point 2011b). As described in Section 2.3.1, *Climate and Greenhouse Gases,* through establishment of the ACS the Army has committed to reducing net GHG emissions by 50% by 2030 (compared to 2005 levels), attain net-zero GHG emissions by 2050, and proactively consider security implications of climate change in strategy, planning, acquisition, supply chain, and programming documents and processes (Department of the Army, Office of the Assistant Secretary of the Army for Installations, Energy and Environment 2022). In recent years West Point has taken several steps towards reducing energy consumption and improving efficiency of Installation buildings. The West Point Department of Public Works has rebuilt the campus energy management control system to install state-of-the-art controls in heating and cooling systems, streamlined repair and installation of improved lighting, and continues to build upon prior successes that enable the Installation to accelerate results to meet GHG emissions reduction targets.

USAG West Point must also meet numerous laws, regulations, and EOs regarding energy usage and conservation. Some of the authorities prescribe standards for compliance. Others require

specific planning and management actions to protect environmental values potentially affected by Army actions. Those that specifically address energy usage and conservation include:

- Energy Independence and Security Act of 2007, (Public Law 110-140);
- Energy Policy Act of 2005 (Public Law 109-58);
- Energy Policy and Conservation Act (42 USC 6361(a)(1));
- National Energy Conservation Policy Act (42 USC 8253, 8259g, 8262g, and 8287);
- EO 13514 Federal Leadership in Environmental, Energy, and Economic Performance;
- EO 13423 Strengthening Federal Environmental, Energy, and Transportation Management;
- EO 13123 Greening the Government through Efficient Energy Management; and
- EO 11912 Delegations of Authority under the Energy Policy and Conservation Act.

USAG West Point is committed to meeting the requirements and goals for new construction and upgrade projects to meet the GHG emissions reduction targets through consideration of relevant laws and regulations, targeting site energy consumption budgets, using energy efficient and Energy Star© materials and equipment, and other measures that will reduce GHG emissions and energy usage.

Nonrenewable energy resources would be committed to upgrade the archaeological curation facility that is included in the Preferred Alternative, including fossil fuels (e.g., gasoline, petroleum products, and lubricants) consumed by construction equipment, and electricity consumed by power tools and equipment. Upon completion of the upgrade of the archaeological curation facility, fossil fuels and electricity will continue to be consumed in operation of the facility; however, through incorporation of green building practices into the facility upgrades, energy and water consumption needs would be anticipated to be reduced in comparison to current conditions. Consumption of nonrenewable energy resources will be minimized or conserved to the extent practicable during construction of the upgrades through the appropriate use of efficient construction equipment where practicable. Consumption of nonrenewable energy sources will be minimized during operation of the upgraded facility through installation of new, energy-efficient, and low-usage utility systems for energy conservation. In addition to meeting Energy Policy Act of 2005 and energy consumption budget requirements, this will also ensure the building complies with the central energy plant requirements for combined heat and power. To meet these requirements, architectural, electrical, plumbing, and mechanical designs that are expected to be included in the upgraded facility are associated with energy efficiency and sustainability features, such as, occupancy sensors to shut off lights in rooms and common areas when rooms are unoccupied, and use of light-emitting diode and fluorescent lighting; plumbing and water efficiency features; upgrades to mechanical efficiency features (such as the HVAC system), and use of appliances that have an EnergyStar © rating or better.

2.16.3 Other Environmental Considerations

Possible conflicts between the Project and Federal, regional, NYS, and local land and airspace use plans, policies, and controls for the area concerned were assessed. Such plans and policies include:

the CAA, Clean Water Act, Noise Control Act, NHPA, Archaeological Resources Protection Act, Resource Conservation and Recovery Act, and Toxic Substances Control Act. The EOs that need to be considered include: EO 12088, *Federal Compliance with Pollution Control Standards*; EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*; EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*; and EO 13175, *Consultation and Coordination with Indian Tribal Governments*; EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*; and EO 12372, *Intergovernmental Review of Federal Programs*. No specific conflicts have been identified for the Proposed Action to date, and several of these are addressed specifically in other sections of this EA. Implementation of the Preferred Alternative as described in this EA will be performed in accordance with all applicable plans and policies, and West Point will obtain and comply with all applicable permits. Therefore, implementation of the ICRMP is not expected to result in conflicts with applicable plans and policies.

2.16.4 Protection of Children from Environmental Health and Safety Risks

EO 13045, *Protection of Children from Environmental Health and Safety Risks*, requires Federal agencies, to the extent permitted by law and mission, to identify and assess environmental health and safety risks that might have a disproportionately high and adverse impact on children, as a result of the agencies programs, policies, or activities. In the case of West Point, minors under the age of 18 include Cadets and students enrolled in the USMA Preparatory School, as well as children of Installation residents and visitors. Construction sites and equipment, such as those that are to be used to upgrade the archaeological curation facility, can be tempting to children and could pose a short-term risk to the safety of children. West Point and contractors will follow safety measures stated in 29 CFR Part 1926 *Safety and Health Regulations for Construction*, and AR 385–10 *Army Safety Program*, to protect the health and safety of West Point personnel, residents, visitors, and construction workers during construction. Passive and active safety measures (such as fences, signs, and access barriers) will be implemented, and construction equipment will be secured when not in use. Construction vehicles using roadways also will be required to follow existing speed limits, which will help protect children and others from potential accidents. Due to these safety measures, no disproportionately high and adverse impact on children will be expected from implementation of the Preferred Alternative.

2.17 Environmental Considerations of the No Action Alternative

The environmental consequences of the No Action Alternative would include long-term adverse impacts on cultural and visual resources located at West Point. Under the No Action Alternative cultural resources would negatively be impacted because USMA would not be able to comply effectively and efficiently with Chapter 6, AR 200-1 and other pertinent laws and regulations pertaining to cultural resources management. This shortcoming could also result in conflicts with the ongoing USMA mission and training activities. Activities such as new facilities construction, building renovation, rehabilitation, demolition, maintenance, repair, and/or any other ground-disturbing activities (including mission training) could potentially affect significant cultural resources. Compliance with Section 106 of the NHPA for routine activities and projects would be more protracted than streamlined, and USMA's ability to respond to inadvertent discoveries, vandalism, and/or looting of archaeological sites could be hindered. Additionally, compliance with Section 110 of the NHPA would be hindered without guidance on the numbers and locations of,

and strategy for, identifying historic properties. With respect to the existing cultural resource collection, USMA would be out of compliance with 36 CFR 79, and the collection could potentially suffer deterioration or would need to be transferred from the installation.

As no adverse impacts have been identified for the Preferred Alternative, implementation of the No Action Alternative would not be associated with avoidance of any potential adverse impacts as identified in the analysis for all resource areas included in this EA.

3.0 SUMMARY OF CONCLUSIONS

3.1 SUMMARY OF ENVIRONMENTAL IMPACTS

This section provides a summary of the anticipated adverse impacts and/or beneficial effects for each resource area under the Preferred Alternative and No Action Alternative scenarios for implementation of the ICRMP (Table 3). This section also summarizes the impact minimization and mitigation measures that will be implemented for the Preferred Alternative (Table 3). These measures have been selected and designed to help avoid and minimize the adverse environmental impacts that are expected from implementing the Preferred Alternative, and mitigate for those impacts that cannot be avoided. Based on the results of the environmental analysis and the proposed minimization and mitigation measures provided below, the Preferred Alternative is expected to result in short-term minor impacts and beneficial effects. No significant adverse impacts are associated with the Proposed Action.

A Finding of No Significant Impact (FONSI) will be prepared for the Proposed Action (and presented at the beginning of this EA). A signed copy of the final FONSI will be provided in the Final EA prepared for the Proposed Action once it has been approved.

Short-term minor impacts on materials and wastes are expected to result from implementation of the Proposed Action. Potential impacts to on materials and waste, and health and safety of human life will be minimized through implementation of minimization and mitigation measures identified in Table 4. Long-term beneficial effects (or potential beneficial effects) on water resources, geology and soils, natural resources, cultural resources, visual and aesthetic resources, health and safety, utilities and infrastructure, land use, and socioeconomic resources are expected.

Implementing the No Action Alternative would be expected to have long-term adverse impacts on cultural and visual resources located at West Point. Cultural resources would negatively be impacted because USMA would not be able to comply effectively and efficiently with Chapter 6, AR 200-1 and other pertinent laws and regulations pertaining to cultural resources management. This shortcoming could also result in conflicts with the ongoing USMA mission and training activities. Activities such as new facilities construction, building renovation, rehabilitation, demolition, maintenance, repair, and/or any other ground-disturbing activities (including mission training) could potentially affect significant cultural resources. Compliance with Section 106 of the NHPA for routine activities and projects would be more protracted than streamlined, and USMA's ability to respond to inadvertent discoveries, vandalism, and/or looting of archaeological sites could be hindered. Additionally, compliance with Section 110 of the NHPA would be hindered without guidance on the numbers and locations of, and strategy for, identifying historic properties. With respect to the existing cultural resource collection, USMA would be out of

compliance with 36 CFR 79, and the collection could potentially suffer deterioration or would need to be transferred from the installation.

Visual resources would be negatively impacted if the ICRMP were not to be implemented, as USMA would not be able to comply effectively and efficiently with Chapter 6, AR 200-1 and other pertinent laws and regulations. This shortcoming could also result in conflicts with the ongoing USMA mission and training activities. Activities such as new facilities construction, building renovation, rehabilitation, demolition, maintenance, and repair, among other activities, could potentially affect significant visual resources. Compliance with Section 106 of the NHPA for routine activities and projects would be more protracted than streamlined, would be less efficient due to lack of coordination of the steps of the Section 106 process, and USMA's ability to respond to unanticipated visual intrusions could be hindered. Additionally, compliance with Section 110 of the NHPA would be hindered without guidance on the numbers and locations of, and strategy for, identifying potentially significant visual resources.

Table 3. Summary of Potential Environmental Consequences.

Resources	Preferred Alternative	No Action Alternative
Water Resources	Potential long-term beneficial effects	No impacts
Geology and Soils	Potential long-term beneficial effects	No impacts
Air Resources	No impacts	No impacts
Natural Resources	Potential long-term beneficial effects	No impacts
Cultural Resources	Long-term beneficial effects	Long-term adverse
Visual Resources	Long-term beneficial effects	Long-term adverse
Health and Safety	No impacts through use of minimization and mitigation measures Potential long-term beneficial effects	Potential long-term adverse impacts
Noise	Potential long-term beneficial effects	No impacts
Traffic and Transportation	No impacts	No impacts
Utilities and Infrastructure	Potential long-term beneficial effects	No impacts
Materials and Waste	Short-term minor adverse impacts	No impacts
Land Use	Long-term beneficial effects	Potential long-term adverse impacts
Socioeconomics	Short-term minor beneficial effects	No impacts
Coastal Zone	No impacts	No impacts

3.2 IMPACT MINIMIZATION AND MITIGATION MEASURES

This section provides a summary of the impact minimization and mitigation measures that will be implemented if the Preferred Alternative is selected. These measures have been selected and designed to help avoid and minimize the adverse impacts of the Proposed Action, and to mitigate impacts that cannot be avoided, so that the impacts will not be significant (Table 4). The only

potential impacts identified in the EA analysis is for health and safety, and materials and waste. No additional minimization or mitigation measures are proposed for other resources evaluated in this EA.

Table 4. Summary of Impact Minimization and Mitigation Measures.

Water Resources
• No special mitigation measures warranted.
Geology and Soils
• No special mitigation measures warranted.
Air Resources
• No special mitigation measures warranted.
Natural Resources
• No special mitigation measures warranted.
Cultural Resources
• No special mitigation measures warranted.
Visual Resources
• No special mitigation measures warranted.
Health and Safety
• All construction contractors will be required to prepare and implement health and safety plans that comply with EM 385-1-1, Occupational Safety and Health Administration, local military base rules, and any other Federal, state, and local, laws, ordinances, criteria, rules and regulations that may apply. These include safety measures outlined in 29 CFR Part 1926, *Safety and Health Regulations for Construction*, and AR 385–10, *Army Safety Program*.
• Per AR 420-1, *Army Facilities Management*, and AR 200-1, *Environmental Protection and Enhancement*, radon mitigation techniques, such as the use of radon resistant materials, will be used for the Project. Post-construction radon testing of the upgraded archaeological curation facility will be implemented to ensure radon mitigation techniques implemented are effective. If necessary based on radon testing results, additional mitigation and testing will be conducted to ensure radon levels are below the USEPA action level.
• During all construction activities that may pose a physical hazard to visitors and/or building employees/staff, the construction area will be closed to visitor and employee/staff access. Highly visible barriers will be erected around the construction and staging areas to prevent public access.
Noise
• No special mitigation measures warranted.
Traffic and Transportation
• No special mitigation measures warranted.
Utilities and Infrastructure
• No special mitigation measures warranted.
Materials and Wastes
• Prior to beginning demolition or upgrade work, the archaeological curation facility building and existing infrastructure elements will be examined by trained inspectors to identify the presence of ACM and LBP in any elements being demolished and removed from the structures, if these structures have not already been surveyed.

- Any materials not characterized for lead contamination are assumed to contain lead, and will be managed as hazardous waste. Any materials identified to contain LBP or ACM will be disposed of in accordance with applicable Federal, state, and local solid waste management regulations, including USEPA regulations, and in coordination with the West Point Solid Waste Management Branch.
- Where required, ACM (especially asbestos that could become friable during demolition), will be removed and disposed of separately prior to demolition in accordance with the Army, USEPA, and Occupational Safety and Health Administration guidelines, which include contractor training and notification requirements, use of personal protective equipment, and approved disposal methods. The removal of ACM will be conducted by trained and certified workers, and all work requests that may disturb asbestos will be reviewed by the West Point Environmental Management Division, which is responsible for managing the hazardous waste program at West Point.
- All waste disposal will be in accordance with applicable local, state, and Federal regulations.
- Hazardous wastes will be disposed of at state-licensed off-site disposal facilities.
- For Project-related use of typical hazardous construction materials (such as solvents, lubricants, sealants, adhesives, petroleum products, paints, and stains) West Point will require its contractors to comply with proper and legal transport, temporary storage, handling/use, reporting, and disposal procedures, in accordance with all Federal, state, and local regulations.
- Hazardous materials that are inadvertently spilled will be handled and disposed of in accordance with local, state, Federal, and Army regulations, and in accordance with established USAG West Point procedures, including the USAG West Point Hazardous Waste Management Policy.
- Construction contractors will be responsible for preventing and responding to spills by implementing proper storage and handling procedures, including USAG West Point's Installation Spill Contingency Plan.
- Non-hazardous debris will be collected in dumpsters, monitored daily, and will not be allowed to litter adjacent areas.
- A Construction Waste Management Plan will be implemented to achieve a minimum 50% recycling rate for building construction materials. The remaining construction debris (including hazardous waste) will be disposed of at a landfill licensed to accept such debris.
- Construction contractors are responsible for submitting and maintaining a construction Waste Management Plan and contractors must provide their own disposal containers.
- Hazardous materials will be handled and stored in accordance with established procedures and guidelines, such as 29 CFR Part 1926, Safety and Health Regulations for Construction.
- If workers are required to perform ground disturbing activities, they will receive instruction on procedures to follow in the event anything suspicious (e.g., UXO) is uncovered during ground disturbing activities.

Land Use

- No special mitigation measures warranted.

Socioeconomics

- No special mitigation measures warranted.

Coastal Zone

- No special mitigation measures warranted.

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APPENDIX A

Integrated Cultural Resources Management Plan 2024–2028

(Volumes 1 and 2)

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APPENDIX B

Agency and Tribal Correspondence

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APPENDIX C

Public Comments Received on the Draft Environmental Assessment

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APPENDIX D

USFWS' Information for Planning and Consultation (IPaC) Report

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