

**U.S. Army Corps of Engineers,
Formerly Used Defense Site Program
PROPOSED PLAN
Camp Hero, Montauk, New York
Project #C02NY002403**



September 2019

INTRODUCTION

The United States Corps of Engineers (USACE) is submitting this Proposed Plan for the Formerly Used Defense Site (FUDS) at Camp Hero located in Montauk, New York (**Figure 1**). Results from extensive field investigations conducted between 2016 and 2017 have led to a proposed plan of No Further Action (NFA) for all media throughout the FUDS. The former Camp Hero was utilized by the Department of Defense (DoD) from 1942 to 1980 and is now a New York State Park operated by the Office of New York State Parks, Recreation, and Historic Preservation (NYSOPRHP). Investigations were conducted at Camp Hero to evaluate whether potential releases related to former military operations may pose a risk to humans or the environment. The findings from these investigations support NFA.

This Proposed Plan is issued by the United States Army Corps of Engineers (USACE), the lead agency for site activities, in coordination with the support agencies that consist of: New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), and the NYSOPRHP. USACE is the DoD executive agent for the Defense Environmental Restoration Program (DERP) - FUDS program.

The USACE, in coordination with the NYSDEC, will prepare a decision document and consider information and comments received during the public comment period. The proposed path forward may be modified based on new information or public comments.

The USACE is issuing this Proposed Plan as part of its public participation responsibilities under Section 117 (a) of the Comprehensive

Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC § 9617(a) and Section 300.430 (f)(3) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This Proposed Plan applies to only Hazardous, Toxic, and Waste (HTW) sites at Camp Hero under the jurisdiction of the USACE. This Proposed Plan summarizes information that can be found in greater detail in the Final Remedial Investigation (RI) Report and other documents contained in the information repository file for the site, which is located at the

OPPORTUNITY FOR PUBLIC COMMENT

Public Comment Period

October 1, 2019 to November 15, 2019

The USACE will accept written comments on the Proposed Plan during this comment period. Send written comments postmarked no later than November 15, 2019 to:

U.S. Army Corps of Engineers, New York District
Attn: Mr. G. Goepfert
CENAN-PP-E, 17th Floor, Station 17 401-2
26 Federal Plaza
New York, New York 10278

Public Meeting and Public Hearing – Thursday,
October 24, 2019

The USACE will hold a public meeting on October 24, 2019 from 6 p.m. to 7:30 p.m., to explain the Proposed Plan. The meeting will be held at the Montauk Public Library, 871 Montauk Hwy, Montauk, NY 11954. Verbal and written comments will be solicited at the meeting. All interested parties are encouraged to attend the meeting to learn more about the site.

For more site information, visit one of the Information Repositories listed at the end of this Proposed Plan or visit our website at <https://www.nan.usace.army.mil/FUDS/Camp-Hero-Reports/>

Montauk Public Library, 871 Montauk Highway, Montauk, New York 11954.

The USACE and the NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the site and remedial activities conducted to date. The documents are also available at the project web site:

<https://www.nan.usace.army.mil/FUDS/Camp-Hero-Reports/>

SITE HISTORY AND BACKGROUND

The former Camp Hero was established in early 1942 as a Coastal Defense Installation to defend the approaches to New York. Three self-sufficient weapon batteries and supporting facilities were constructed which included barracks, mess halls, hospital facilities, a motor repair shop, a recreation facility, sentry boxes, and water supply and sewage facilities. Ammunition stored at Camp Hero included anti-aircraft munitions, high explosive rounds, armor piercing rounds, and various other projectiles. Camp Hero's weaponry was periodically test-fired over water.

Camp Hero was placed on inactive status in 1947 and ultimately declared surplus by the Department of the Army in late 1949. Between 1949 and 1980, portions of the property were transferred to the Department of the Air Force for an aircraft control and warning station or used for firing range and field exercises by the Department of the Army.

In 1974, when some of the on-site military uses were still active, portions of the property were transferred from the DoD to the State of New York. Following the departure of the last military personnel in 1980, the DoD declared the remainder of the property to be surplus federal land. Over the next few years, the property was divided and deeded to the State of New York and

the Town of East Hampton, with the final land transfer to the state occurring in 1984.

The former Camp Hero is now used as Camp Hero State Park, owned by the State of New York, and operated under the jurisdiction of NYSOPRHP. The park consists of 469 acres and is bound by Montauk Highway (Route 27) to the north, the Atlantic Ocean to the south, Montauk Point State Park to the east, and an undeveloped sanctuary area to the west. The landscape includes wooded areas, freshwater wetlands, and seaside bluffs.

SITE CHARACTERISTICS

Investigations at Camp Hero have included underground storage tank (UST) and aboveground storage tank (AST) closures and reports, focused site assessments, and sitewide surveys and reports. A historical records review conducted in 2015 as part of the RI identified 45 potential Areas of Concern (AOCs) at Camp Hero (two additional AOCs were identified in 2016, for a total of 47 AOCs). These AOCs included former waste disposal and coal storage areas, abandoned drum locations, formerly documented and alleged USTs and ASTs, a Motor Pool building, and other areas associated with historical DoD operations. A list of the AOCs is provided in **Table 1**, and the locations of the AOCs are presented on **Figure 2**¹. **Table 1** also identifies decision units (DUs) and stream exposure areas (SEAs) investigated during the RI and presents the reason for concern, the media sampled and analyses, and the basis for CERCLA NFA for each AOC, DU, and SEA. The analyses performed varied by location and medium based on the listed reason for concern. The RI addressed the AOCs as intended with the exception of Battery 112. Battery 112 was completely sealed and access was not possible; therefore, no sampling was completed inside. However, during the Phase I RI field investigation, multiple samples of soil,

¹ Note: Figure 2 is best viewed electronically or printed and viewed at size 28 x 40 inches.

groundwater, and a downgradient waste disposal system were collected and analyzed for constituents of potential concern in the vicinity of Battery 112 (refer to Appendix E of the RI Report for additional details). These samples were all non-detect for PCBs. Therefore, although Battery 112 was not accessed for the intended sampling work, there was no evidence of a release to the environment. Refer to the Final RI Report (January 2019) for additional details on the RI sampling program.

The primary objectives of the RI were to identify and summarize the nature and extent of potential releases and impacts in site media from former military operations, and to subsequently quantify whether unacceptable risks are posed to human health or ecological receptors associated with exposure to constituents from these historical operations. The RI included three phases of field investigation: Phase I, Phase II, and Phase III.

The Phase I investigation was conducted as a CERCLA Site Inspection-level investigation with the primary objective of determining the presence or absence of potential impacts at the 47 AOCs from former DoD activities. The Phase II RI field investigation was primarily focused on the former Building 203 AOC where petroleum impacts to the subsurface were identified during the Phase I effort. The Phase II RI field investigation activities also included the installation, development, and sampling of permanent background monitoring wells for the collection of sitewide background groundwater data, as well as conducting a sitewide surface water drainage survey and habitat surveys of multiple AOCs. The analyses performed varied between AOCs based on the reasons for concern at that AOC, and included volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), energetics (munitions), polychlorinated biphenyls (PCBs), and metals.

A Preliminary Screening Evaluation (PSE) was completed using the Phase I and II data to determine whether any of the AOCs required further assessment as part of the Phase III RI field effort. A total of 25 AOCs were determined to warrant NFA based on the PSE. The remaining 22 AOCs were grouped into 18 geometric DUs for the Phase III field investigation. Streams in the vicinity of the DUs were grouped into eight SEAs for the assessment of surface water and sediment. **Figure 2²** identifies the AOCs and the 18 DUs selected based on the results of the PSE. Table 1 provides a summary of the DUs and SEAs included in the Phase III field investigation. The Phase III RI field investigation was accomplished by collecting an unbiased, representative dataset for surface and subsurface soil within each DU (as recommended by the PSE) and surface water and sediment samples within each SEA. The investigation also included the collection of sitewide groundwater samples and background surface water and sediment samples. The Phase III effort was specifically designed to support the risk assessments and address data gaps from previous phases.

Following the completion of the Phase III field investigation, the RI Report compiled and evaluated data obtained from approximately 1,300 soil, sediment, surface water, and groundwater samples collected between May 2016 and June 2017. The evaluation focused on surface soil and subsurface soil collected from the DUs, surface water and sediment collected from the SEAs, and groundwater data collected from across the site. **Figure 3²** identifies the DUs, SEAs, and groundwater monitoring wells considered in the RI Report.

The analytical parameters identified by the PSE and evaluated in the RI and the risk assessments varied by location and media, but typically included SVOCs and metals in all sampled media. In addition, PCBs were analyzed in media

² Note: Figures 2 and 3 are best viewed electronically or printed and viewed at size 28 x 40 inches.

associated with DU15 (and the co-located SEA07) and VOCs were analyzed in soil and groundwater associated with DU01. Data collected from background locations were also evaluated to distinguish natural or background conditions from DoD-related chemicals. No analysis of energetics (munitions) was performed after the Phase I investigation because there were no detections in the Phase I samples.

Groundwater at Camp Hero is found in shallow, perched lenses below the ground surface. The perched groundwater at Camp Hero does not provide water for local residential wells. A potability analysis was conducted as part of the RI and concluded that the perched groundwater lenses at the site are not feasible sources of potable water supply due to poor well yield, recharge, and water quality. Additionally, before a potable groundwater well could be installed at Camp Hero, the well would be required to conform to standards for community or private water wells issued by Suffolk County Department of Health Services (SCDHS). These standards apply to water well capacity, water quality, and construction. The groundwater characteristics of perched groundwater at Camp Hero would not qualify under these standards because the perched groundwater would not sustain a sufficient yield and the thickness of the perched groundwater table would not meet the requirements for well construction.

Additionally, the perched groundwater lenses beneath Camp Hero are not hydraulically connected to drinking water resources in Suffolk County. The deeper, productive confined aquifer in this area is separated from the upper perched groundwater lenses by a continuous silt and clay confining layer which generally ranges from 60 to more than 100 feet in thickness. There is no indication that this deep aquifer has been compromised by DoD activities.

The investigation data and risk assessments are documented in the Final RI Report (January

2019) and the findings of the risk assessments are summarized below.

SUMMARY OF SITE RISK ASSESSMENT

Comprehensive baseline human health and ecological risk assessments were completed, which included the selection of chemicals of potential concern (COPCs) based on comparisons of media concentrations of chemicals against applicable human health or ecological screening levels and site-specific background threshold values, as well as statistical comparisons against background. Quantitative risk calculations were completed for all COPCs and findings were further evaluated using a geochemical statistical evaluation for metals and additional characterization of polycyclic aromatic hydrocarbons (PAHs), including PAH forensics and PAH source evaluation. PAHs are formed during the incomplete combustion of coal, oil and gas, garbage, or other organic substances. PAHs generally occur as complex mixtures, not as single compounds, and are ubiquitous in the environment.

As summarized below, there were no chemicals of concern (COCs) identified that could be attributed to a CERCLA release. A CERCLA release, as used in the context of the Camp Hero FUDS program, means DoD activities that may have resulted in "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant)" (CERCLA § 101(22)). Per the CERCLA process, no further assessment or response action is warranted for any AOC, DU, SEA, or the sitewide groundwater. Therefore, NFA is proposed for the Camp Hero FUDS under CERCLA.

Human Health Risk Assessment

The human health risk assessment (HHRA) quantitatively evaluated exposure by human receptors to soil, groundwater, surface water, and sediment through incidental ingestion,

dermal contact, and inhalation of wind-blown particulates and vapors.

The HHRA calculated potential risks for a number of potential current/future exposure scenarios including trespassers, park employees, maintenance workers, indoor workers, construction workers, and recreational users of the park. Although a future hypothetical resident scenario was evaluated for informational purposes, residential reuse of the park is not expected to occur in the future.

For all DUs and SEAs, except DU11 and DU12, the estimated cancer and non-cancer risks for non-residential receptors evaluated at Camp Hero were below the USEPA target risk thresholds for all media. The HHRA identified risks due to exposure to some PAHs in surface soil at DU11 (for the construction worker) and DU12 (for the recreational user). The PAHs are likely related to the presence of creosote, coal tar, or asphalt, which were used as intended and are not related to a CERCLA release. Therefore, potential current and future exposure concerns for trespassers, park employees, maintenance workers, indoor workers, construction workers, and recreational users were eliminated in the HHRA.

The evaluation of the hypothetical resident identified potential risks above USEPA target risk thresholds based primarily on exposure to shallow groundwater as drinking water, inhalation of vapor while showering/bathing, and vapor intrusion into indoor air. However, the perched groundwater at Camp Hero does not provide water for local residential wells. The potability assessment conducted as part of the RI indicated that the shallow perched groundwater at Camp Hero was not suitable as a potable water source and future residential use of the park is not anticipated. Therefore, the evaluation of residential exposures is only provided for informational use.

Based on the results of the HHRA, no COCs were identified for further evaluation under CERCLA.

Ecological Risk Assessment

The ecological risk assessment (ERA) quantitatively evaluated surface soil from the DUs and surface water and sediment data from the SEAs to assess the potential for risks to lower (soil invertebrates, terrestrial plants, aquatic invertebrates, and benthic invertebrates) and higher (birds and mammals) trophic level ecological receptors. The potential risks were characterized using different measures of effect depending on the assessment endpoint and available data, but included evaluations of site data relative to background/natural conditions, comparisons against literature-derived toxicity screening values, and evaluation of food chain modeling results.

The ERA indicated that some PAHs in surface soil could pose risks to birds or mammals at DU11 and DU12; however, further evaluation indicated that the PAHs were likely related to the presence of creosote, coal tar, or asphalt, and thus could not be attributed to a CERCLA release. While PAHs could pose a potential risk to benthic receptors in portions of SEA03 and SEA08, habitat conditions such as shallow water or low pH may also adversely impact the benthic community. Further characterization of the PAHs at SEA03 and SEA08 indicated that the PAHs are consistent with background conditions and are not attributed to a CERCLA release.

Based on the results of the ERA, no COCs were identified for further evaluation under CERCLA.

RATIONALE FOR NFA

In accordance with CERCLA and the NCP, USACE remediates sites that pose unacceptable risks to human health or the environment from historical DoD activities at the site. The RI concluded that there is no unacceptable site-related risk to human health or the environment due to CERCLA releases. Therefore, NFA is recommended for all DUs and SEAs established for Camp Hero. Although the risk assessments initially indicated potential risks could be posed to receptors from

PAHs at DU11, DU12, SEA03, and SEA08, further characterization of the PAHs indicated they are not attributed to a CERCLA release. Therefore, no further assessment or response action is warranted for the investigation areas at Camp Hero under the CERCLA program. Accordingly, remedial action is not warranted, so no Feasibility Study was conducted and no remedial alternatives were evaluated. USACE intends to properly close all monitoring wells associated with the completed investigation.

Residual light non-aqueous phase liquid (LNAPL) was identified in the subsurface at the former Building 203 (DU01) where two large USTs and associated contaminated soils were previously removed in 1993. A sample of the LNAPL was submitted for fingerprint analysis during the Phase II investigation and was found to be consistent with weathered diesel/Number 2 fuel oil, with no PCBs detected. Data collected during the RI field investigation delineated the vertical and horizontal extent of LNAPL, indicated the LNAPL is stable and not recoverable, and that natural processes are depleting the LNAPL source mass. Despite the presence of LNAPL, COCs representing human health and ecological risk under CERCLA were not identified in soil, groundwater, surface water, or sediment associated with DU01. Because no COCs presenting risk were identified at DU01 during the risk evaluation, NFA for DU01 is required under the CERCLA program.

A NYSDEC Spill Number (PC-1602757) is open for the LNAPL identified at this DU. Although petroleum is exempt under CERCLA, the USACE is voluntarily working with the NYSDEC to address LNAPL in perched groundwater at the former Building 203. A Technical Memorandum will be prepared to address the LNAPL at DU01 under the NYSDEC Spills Response Program in accordance with Article Twelve of the New York State Navigation Law. The 1993 site remediation efforts (over excavation and off-site disposal of soil at the UST locations), LNAPL stability, lack of recoverability, and evidence of active source

depletion will be taken into consideration when evaluating whether further action is required under the NYSDEC program.

COMMUNITY PARTICIPATION

Public input is important to the decision-making process. Interested parties are encouraged by USACE and the NYSDEC to use the comment period to review the Proposed Plan for NFA and to provide their comments to USACE. A notice will be published via local news media to announce the availability of this Proposed Plan for public review and comment.

In accordance with CERCLA Section 117(a), a public comment period of not less than 30 days will be provided, and a public meeting regarding the Proposed Plan has been scheduled during the public comment period. Dates and details of the public meeting and public comment period are contained in the text box on page 1.

Community acceptance of the NFA Proposed Plan will be evaluated after the public comment period ends and the public meeting has been held. Following the public comment period, all comments received will be addressed in a "Responsiveness Summary" to be included in the Decision Document for Camp Hero.

SUMMARY

Based on the results of the RI and analysis, NFA is recommended for the AOCs, DUs, and SEAs at Camp Hero. The RI risk assessments did not identify COCs that could be attributed to a CERCLA release. Interested parties are encouraged by USACE and the NYSDEC to attend the public meeting, use the comment period to review the Proposed Plan for NFA, and to provide their comments to USACE. Information on the public meeting and comment period are provided in the summary box on the first page of this document.

GLOSSARY OF TERMS

Administrative Record: The body of documents the USACE used to form the basis for selection of a response.

Area of Concern (AOC): Areas identified following a preliminary records review as warranting investigation based on the types of historical activities that occurred within the area (e.g., material storage, documented spills, vehicle fueling).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): The law establishing requirements concerning cleanups of sites where hazardous substances were disposed, and providing for liability of persons responsible for releases of hazardous substances at these sites, and establishing a trust fund to provide for cleanup when no responsible party can be identified (40 U.S.C. § 9601 et seq.).

Chemicals of Concern (COCs): Chemicals of concern are chemicals identified in the risk assessments as the primary drivers of unacceptable risks.

Chemicals of Potential Concern (COPCs): Chemicals found at a site in concentrations above federal and state default-based risk-screening levels.

Decision Document: A generic term used to describe the documentation for the selection of a removal action, remedial action, or other type of environmental restoration action.

Decision Unit (DU): Eighteen decision units were identified following the evaluation of the Phase I and II data to direct sampling and evaluating for the Phase III field investigation. DUs were set at approximately 0.5- or 1-acre exposure areas, consistent with the extent of potential impacts from prior investigation, and soils were sampled in an un-biased manner to provide a statistically robust dataset for use in the RI and the risk assessments.

Defense Environmental Restoration Program (DERP): Law authorizing environmental investigation and cleanup at sites in the United States (U.S.) and its territories that the U.S. DoD either currently owns or owned in the past.

Department of Defense (DoD): An executive branch department of the federal government of the U.S. charged with coordinating and supervising all agencies and functions of the government concerned directly with national security and the U.S. Armed Forces.

Ecological Risk Assessment (ERA): A study of the potential risks to ecological receptors that might be exposed to chemicals in site media. The ERA estimates the risk to the environment at a site if no response action is taken.

Formerly Used Defense Sites (FUDS): Properties that were owned, leased, or otherwise possessed by the U.S. Government and were the responsibility of the DoD, which were transferred prior to October 16, 1986.

Groundwater: The water found beneath the earth's surface that fills pores between such materials as sand, soil, gravel, or rock. In the case of the site, groundwater is found in perched lenses below the ground surface. The perched groundwater at Camp Hero is not a feasible source of potable water supply, is not hydraulically connected to any drinking water resources, and is separated from the much deeper aquifer by a thick clay and silt confining layer.

Information Repository: A public file containing site/project information and documents of on-site investigation and remedial activities in either hard copy or electronic form. The information repository for Camp Hero is located at the Montauk Public Library, 871 Montauk Highway, Montauk, New York 11954.

Human Health Risk Assessment (HHRA): A study of the actual or potential danger to human

health from hazardous substances at a specific site. The HHRA estimates the risk to human health at a site if no response action is taken.

Light Non-Aqueous Phase Liquid (LNAPL):

An organic liquid that is not soluble in water and has lower density than water, such as fuel oil or gasoline. Differences in the physical and chemical properties of water and LNAPL result in the formation of a physical interface between the liquids which prevents the two fluids from mixing. Once a LNAPL infiltrates the ground, it will stop at the height of the water table because the LNAPL is less dense than water.

Monitoring Well (MW): Wells used to collect groundwater level and groundwater chemical concentration information over a period of time.

National Oil and Hazardous Substance Pollution Contingency Plan (NCP): USEPA's regulations governing all cleanups under CERCLA.

Polychlorinated Biphenyls (PCBs): A group of man-made organic chemicals consisting of carbon, hydrogen, and chlorine. PCBs have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer and hydraulic equipment; plasticizers in paints, plastics, and rubber products; and pigments, dyes, and carbonless copy paper.

Polycyclic Aromatic Hydrocarbons (PAHs): a group of organic chemicals that are formed during the incomplete combustion of coal, oil and gas, garbage, or other organic substances. There are more than 100 different PAHs. PAHs generally occur as complex mixtures, not as single compounds. PAHs are found in coal tar, crude oil, creosote, and roofing tar. They are found throughout the environment in the air, water, and soil.

Proposed Plan: A document that presents the preferred remedial action for public comment.

Public Comment Period: A time for the public to review and comment on the documents and actions taken by the USACE and regulatory agencies. A 30-day comment period is required by 40 CFR Section 300.430(f)(3)(C) to provide a sufficient opportunity for community members to review the Administrative Record file and review and comment on the Proposed Plan.

Remedial Action: Action taken to cleanup contamination at a site to acceptable standards.

Remedial Investigation (RI): A process undertaken by the lead agency to determine the nature and extent of the problem presented by a release. The RI for Camp Hero included an investigation of soil, surface water, sediment, and groundwater to determine the source(s) and extent of contamination at the site. The RI also determines whether or not the contamination presents a significant risk to human health or the environment. The RI for Camp Hero was finalized in January 2019.

Stream Exposure Area (SEA): A sitewide network of surface water and sediment samples was established for the Phase III RI field investigation to assess potential environmental impacts from the various DUs on the network of streams within the Camp Hero investigation area. Surface water and sediment sample locations within the sitewide network were grouped into eight linear SEAs for the assessment of potential DU contributions, as well as broader stream conditions along longer stretches of the channels.

Semivolatile Organic Compound (SVOC): Carbon-based chemicals whose composition makes it possible for them to evaporate to a gas (volatilize) under normal conditions of temperature and pressure. The volatility of a compound is usually measured by its boiling point. The lower the compound's boiling point, the more volatile it is. SVOCs are less volatile than VOCs and have higher boiling points at which they evaporate into the air.

Volatile Organic Compound (VOC): Carbon-based chemicals, such as chlorinated solvents, whose composition makes it possible for them to evaporate to a gas (volatilize) under normal conditions of temperature and pressure.

REFERENCES

42 United States Code, 1980. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. Chapter 103. §§9601-9675.

AECOM-Tidewater JV, 2016. Final Work Plan. Remedial Investigation, Feasibility Study, Proposed Plan and Decision Document, Camp Hero, Montauk, New York. June.

AECOM-Tidewater JV, 2017a. Phase II Work Plan Addendum. Investigation Field Report. Remedial Investigation, Feasibility Study, Proposed Plan and Decision Document, Camp Hero, Montauk, New York. January.

AECOM-Tidewater JV, 2017b. Final Phase III Remedial Investigation Sampling and Analysis Plan. Remedial Investigation, Feasibility Study, Proposed Plan and Decision Document, Camp Hero, Montauk, New York. May.

AECOM-Tidewater JV, 2019. Final Remedial Investigation Report, Camp Hero, Montauk, New York. November.

SCDHS, 1985. Private Water Systems Standards. Issued May 1985, Revised July 1992.

Table 1
Summary of Remedial Investigation Effort Leading to Basis for NFA for each DU, SEA, and AOC
Camp Hero Proposed Plan
Montauk, New York

DU, SEA, or AOC ID	DU, SEA, or AOC Name	Reason for Concern	Media Sampled and Analyses¹	Basis for CERCLA NFA
DU01	Former Building 203 Area	Two former 25,000 gallon USTs associated with reported spill; possible solvents in excavation pit	Media: SS, SO, GW, SW, SD, LNAPL Analyses: VOCs, SVOCs, PCBs, metals, fuel fingerprint, TOC, MNA ²	Compliance with CERCLA Program Petroleum addressed under NYSDEC regulations
DU02	H-2 Drum Location	Drum present, possible disposal area	Media: SS, SO, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU03	H-1 Drum Location	Drum present, possible disposal area	Media: SS, SO, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU04	H-18 Former Drum Location	Drum present, possible disposal area	Media: SS, SO Analyses: VOCs, SVOCs, PCBs, metals	No unacceptable risks
DU05	WDS Cesspool Area	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU06	Former Power Plant Area	Former power plant (H-11), former sewage ejector station (H-12), and tile field (WDS SB23 - SB24) which may have been used for hazardous material disposal	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU07	H-19, H-20 AST/Drum Location	Former AST (H-19), Drum Location (H-20), Possible Boiler (H-9); possible disposal area	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU08	WDS Chlorine Contact Chamber Area	Chlorine contact chamber (WDS SB01 - SB03); portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC, MNA ²	No unacceptable risks for groundwater; surface water and sediment addressed as SEA08
DU09	H-15 Coal Storage Area	Former coal storage	Media: SS, SO Analyses: PAHs, metals	No unacceptable risks
DU10	H-5 Drum/Debris Area	Former drum and construction debris; possible disposal area	Media: SS, SO, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU11	H-16 Sewage, WDS Septic Area	Former sewage treatment area and portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, Stars list for fuel oil VOCs and SVOCs, PCBs, metals, energetics, TOC, MNA ²	Lines of evidence during uncertainty assessment eliminated PAHs
DU12	WDS Manhole Area 1	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	PAHs could not be attributed to a CERCLA release
DU13	H-14 Coal Storage Area	Former coal storage	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU14	WDS Septic Tank Area	Possible septic tank associated with abandoned site-wide WDS possibly used for hazardous material disposal	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU15	H-6 Debris Area	Construction debris; possible disposal area	Media: SS, SO, GW, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks
DU16	WDS Manhole Area 2	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SS, SO, GW Analyses: VOCs, SVOCs, PCBs, metals	No unacceptable risks
DU17	H-4 Debris Area	Construction debris; possible disposal area	Media: SS, SO, GW, SW, SD Analyses: SVOCs, PCBs, metals, TOC	No unacceptable risks
DU18	H-3 Drum Area	Drum present; possible disposal area	Media: SS, SO, SW, SD Analyses: VOCs, SVOCs, PCBs, metals, TOC	No unacceptable risks

Table 1
Summary of Remedial Investigation Effort Leading to Basis for NFA for each DU, SEA, and AOC
Camp Hero Proposed Plan
Montauk, New York

DU, SEA, or AOC ID	DU, SEA, or AOC Name	Reason for Concern	Media Sampled and Analyses¹	Basis for CERCLA NFA
SEA01	Near DU07	--	Media: SW, SD Analyses: SVOCs, TOC, metals	No unacceptable risks
SEA02	Near DU11, DU12, and DU17	--	Media: SW, SD Analyses: SVOCs, TOC, metals	No unacceptable risks
SEA03	Near DU10 and DU11	--	Media: SW, SD Analyses: SVOCs, TOC, metals	PAHs could not be attributed to a CERCLA release
SEA04	Near DU13 and DU14	--	Media: SW, SD Analyses: SVOCs, TOC, metals	No unacceptable risks
SEA05	Near DU05 and DU06	--	Media: SW, SD Analyses: SVOCs, TOC, metals	No unacceptable risks
SEA06	Near DU01, DU02, and DU03	--	Media: SW, SD Analyses: SVOCs, TOC, metals	No unacceptable risks
SEA07	Near DU15	--	Media: SW, SD Analyses: SVOCs, PCBs, TOC, metals	No unacceptable risks
SEA08	Near DU08	--	Media: SW, SD Analyses: SVOCs, TOC, metals	PAHs could not be attributed to a CERCLA release
--	Sitewide Groundwater	--	Media: GW Analyses: VOCs, SVOCs, PCBs, metals	No unacceptable risks
STB	Building 22 (Suspected Tank B)	Suspected former tank location	Media: SS, SO, GW Analyses: VOCs, SVOCs, STARS list for fuel oil VOCs and SVOCs, metals, MNA ²	No unacceptable risks
AST35	AST-35 (H-13)	Former 200,000 gallon tank associated with reported spill	Media: SS, SO, GW Analyses: VOCs, SVOCs, STARS list for fuel oil VOCs and SVOCs	No impacts for soil; groundwater assessed as part of DU01; surface water and sediment assessed as SEA06
FPH	FPH for AST-35	Distribution line connected to AST-35	Media: SS, SO, GW Analyses: VOCs, SVOCs, STARS list for fuel oil VOCs and SVOCs	No impacts for soil; groundwater assessed as part of DU01; surface water and sediment assessed as SEA06
201	Building 201 Radar Tower/Antenna	Historic presence of electrical transformers	Media: SO, GW Analyses: VOCs, SVOCs, PCBs, metals	No impacts identified
216	Battery 216	Potential unknown storage or vaults	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
2010	Building 2010 (UST 30)	Lead in soil per state UST closure reports	Media: SO, GW Analyses: lead	No impacts identified
EFO	Engineering Field Office	Potential historic ordnance repair	Media: SS, SO, GW Analyses: energetics	No impacts identified
F100C	Building F100C (UST 34)	Lead in soil per state UST closure reports	Media: SO, GW Analyses: lead	No impacts identified
H7	Possible Boiler (H-7)	Possible disposal area	<i>Reported boiler could not be located</i>	No impacts identified
H8	Possible Boiler (H-8)	Possible disposal area	<i>Reported boiler could not be located</i>	No impacts identified
H17	Open Pits (H-17)	Possible disposal area	Media: SS, SO, GW Analyses: VOCs, SVOCs, PCBs, metals	No impacts identified
H21	Open Pits (H-21)	Possible disposal area	Media: SS, SO, GW Analyses: VOCs, SVOCs, PCBs, metals	No impacts identified
H22	Drum Location (H-22)	Possible disposal area	Media: SS, SO, GW, LC Analyses: VOCs, SVOCs, PCBs, metals	No impacts identified
P113	Plotting Room 113	Potential unknown storage or vaults	Media: SS, SO, GW Analyses: VOCs, SVOCs, STARS list for fuel oil and gasoline, PCBs, lead	No impacts identified

Table 1
Summary of Remedial Investigation Effort Leading to Basis for NFA for each DU, SEA, and AOC
Camp Hero Proposed Plan
Montauk, New York

DU, SEA, or AOC ID	DU, SEA, or AOC Name	Reason for Concern	Media Sampled and Analyses¹	Basis for CERCLA NFA
WDS	WDS SB04 - SB05 Septic Tank	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SS Media: VOCs, SVOCs, PCBs, metals	No impacts identified
WDS	WDS SB10 Box	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SO, GW Media: VOCs, SVOCs, PCBs, metals	No impacts identified
WDS	WDS SB11 Cesspool	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SO, GW Media: VOCs, SVOCs, PCBs, metals	No impacts identified
WDS	WDS SB12 - SB13 Manholes	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SO, GW Media: VOCs, SVOCs, PCBs, metals	No impacts identified
WDS	WDS SB14 - SB17 Cesspools	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SO, GW Media: VOCs, SVOCs, PCBs, metals	No impacts identified
WDS	WDS SB18 - SB19	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SO, GW Media: VOCs, SVOCs, PCBs, metals	No impacts identified
WDS	WDS SB20 Septic Tank	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SO, GW Media: VOCs, SVOCs, PCBs, metals	No impacts identified
WDS	WDS SB21 - SB22 Septic Tank, Drain Field	Portion of abandoned site-wide WDS possibly used for hazardous material disposal	Media: SO, GW Media: VOCs, SVOCs, PCBs, metals	No impacts identified
STA	Building 20 (Tank A)	Suspected former tank location	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
STC	Building 2 (Tank C)	Suspected former tank location	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
STD	Building 104R (Tank D)	Suspected former tank location	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
STE	Building 3001 (Tank E)	Suspected former tank location	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
STF	Pump House (Tank F)	Suspected former tank location	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
STG	Pump House (Tank G)	Suspected former tank location	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
STH	Building 109 (Tank H)	Suspected former tank location	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
AGC1	AGC Site 1	Possible former waste dumping and metal debris	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
AGC2	AGC Site 2	Possible former waste dumping and metal debris	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
AGC3	Camp Hero State Park Bluffs / AGC Site 3	Possible former waste dumping and metal debris	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
AGC4	AGC Site 4	Possible former waste dumping and metal debris	<i>Geophysical survey indicated no samples necessary</i>	No impacts identified
112	Battery 112	Historic presence of electrical transformers; oil staining	--	No access (building sealed)
010	Building 10 Kitchen/Mess Hall	Oil staining; presence of oil, fuel, and paint cans	--	Removal action under separate contract
107	Building 107 Electrical Substation	Historic presence of electrical transformers	Media: WP, CC, LC Analyses: PCBs	Removal action under separate contract

Table 1
Summary of Remedial Investigation Effort Leading to Basis for NFA for each DU, SEA, and AOC
Camp Hero Proposed Plan
Montauk, New York

DU, SEA, or AOC ID	DU, SEA, or AOC Name	Reason for Concern	Media Sampled and Analyses¹	Basis for CERCLA NFA
B113	Battery 113	Historic presence of electrical transformers; oil staining; presence of tanks, drums, and pits with standing water	Media: WP, CC, LC, fuel Analyses: VOCs, SVOCs, PCBs, metals, fuel fingerprint	Removal action under separate contract

Notes

1 The analyses performed were based on the listed Reasons for Concern and varied between each AOC, DU, and SEA, and each medium. This table provides a summary of the analyses completed at each AOC, DU, or SEA but not all analyses were completed in all media listed. Refer to the *Final Remedial Investigation Report, Camp Hero, Montauk, New York* (January 2019) for additional details.

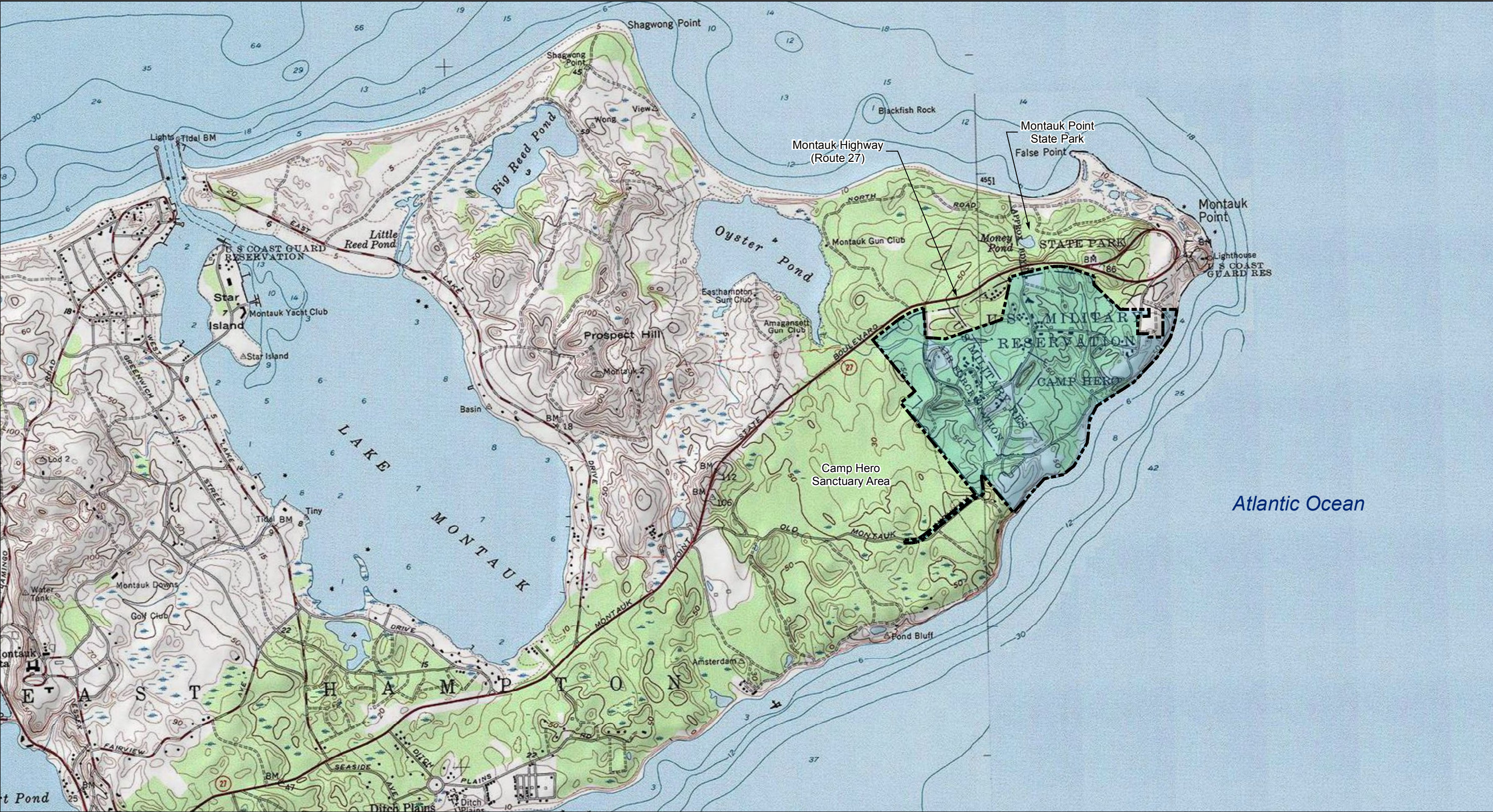
2 MNA parameters consisted of biochemical oxygen demand, total oxygen demand, total organic carbon, ferrous iron (field analysis), chlorides, sulfates and sulfides, nitrates and nitrites, alkalinity, methane, ethane, and ethene.

Sample Matrix Codes

CC = concrete chip
 GW = groundwater
 LC = liquid characterization
 SD = sediment
 SO = subsurface soil
 SS = surface soil
 SW = surface water
 WP = wipe

Acronyms and Abbreviations

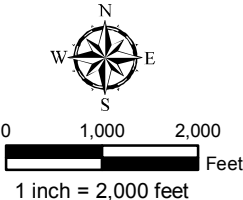
AGC = Army Geospatial Center
 AOC = area of concern
 AST = aboveground storage tank
 CERCLA = Comprehensive Environmental Restoration, Compensation, and Liability Act
 DU = decision unit
 FPH = fuel pump house
 ID = identification
 LNAPL = light non-aqueous phase liquid
 MNA = monitored natural attenuation
 NFA = no further action
 NYSDEC = New York State Department of Environmental Conservation
 PCB = polychlorinated biphenyl
 RI = Remedial Investigation
 SB = soil boring
 SEA = stream exposure area
 STARS = Spills Technology and Remediation Series (NYSDEC)
 STB = suspected tank B
 SVOC = semi-volatile organic compound
 USACE = United States Army Corps of Engineers
 UST = underground storage tank
 VOC = volatile organic compound
 WDS = waste disposal system



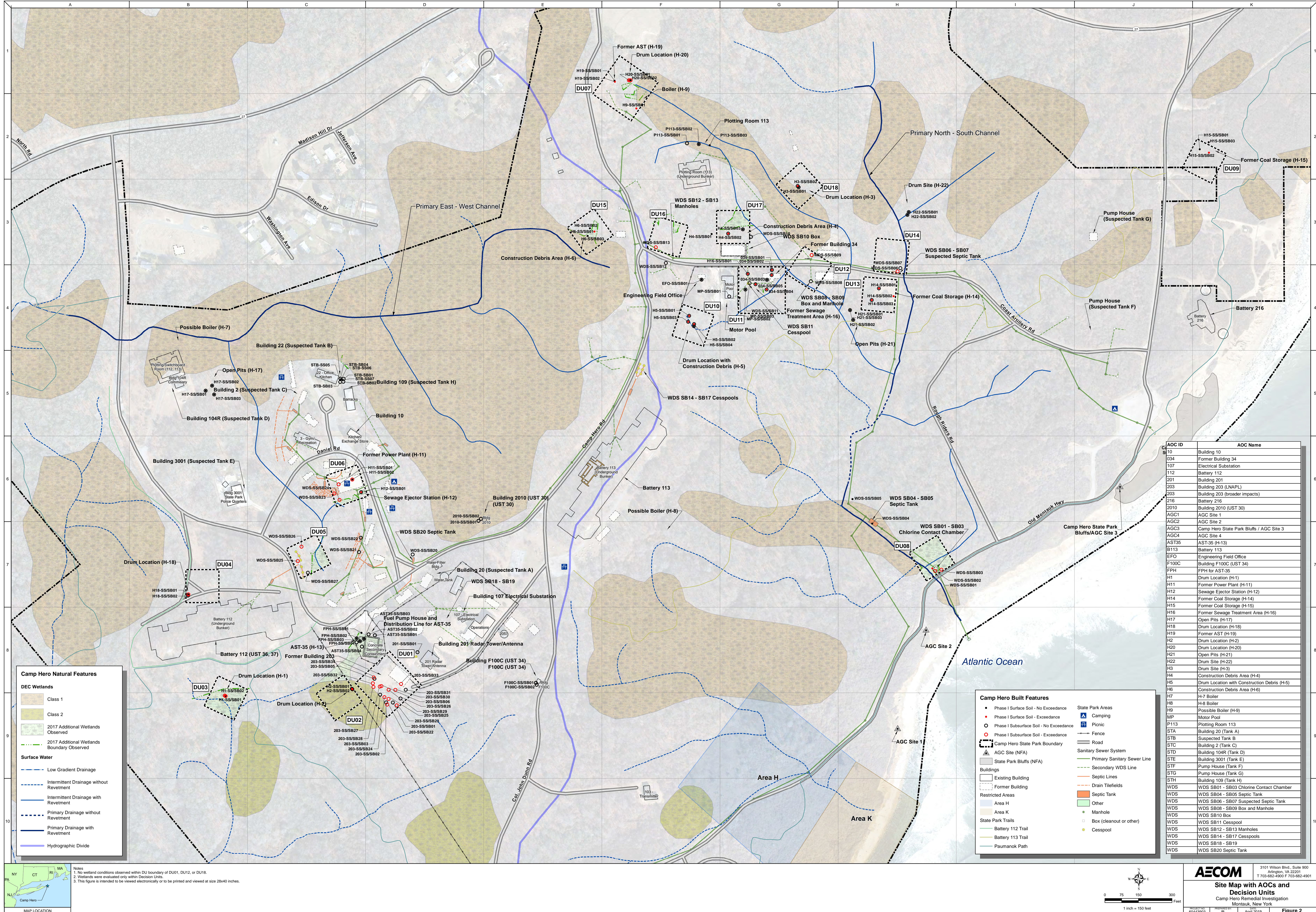
Camp Hero Built Features

Camp Hero State Park Boundary

NAD 1983 StatePlane Long Island FIPS 3104
Basemap Copyright:© 2013 National Geographic Society, i-cubed



AECOM		3101 Wilson Blvd., Suite 900 Arlington, VA 22201 T 703-682-4900 F 703-682-4901	
General Location Map			
Camp Hero Proposed Plan Montauk, New York			
PROJECT NO. 60443903	PREPARED BY: JB	DATE: July 2018	Figure 1



Address: _____

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