Former Grosse Ile Naval Air Station, Grosse Ile, Michigan

AOC 12, Former Battery Storage and Maintenance Building (Building 28), Proposed Plan

Final

July 2021

U.S. Army Corps of Engineers, Louisville District
600 Dr. Martin Luther King, Jr. Place
Room 351
Louisville, KY 40202-2239

FUDS Project Number E05MI012304

US Army Corps of Engineers®

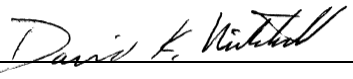
Statement of Independent Technical Review

CH2M has completed the final Proposed Plan for Area of Concern 12, Former Battery Storage and Maintenance Building (Building 28), at the former Grosse Ile Naval Air Station Grosse Ile (NASGI), located in Grosse Ile, Wayne County, Michigan, FUDS Project number E05MI012304 under contract number W912QR-16-D-0007, delivery order no. W912QR-18-F-0399.

Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures, and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing U.S. Army Corps policy. Significant concerns and explanation of the resolutions are documented within the project file. As noted above, all concerns resulting from independent technical review of the project have been considered.

Date: Jul. 21, 2021

Kimberly Amley
Project Manager, CH2M



Date: Jul. 22, 2021

David Mitchell
Independent Technical Reviewer, CH2M

US Army Corps of Engineers

Proposed Plan

Area of Concern 12, Former Battery Storage and Maintenance Building, Former Naval Air Station Grosse Ile, Grosse Ile, Michigan

Louisville District

Formerly Used Defense Site Property Number: E05MI0123

July 2021

Introduction

The **U.S. Army Corps of Engineers** (USACE), in cooperation with the **Michigan Department of Environment, Great Lakes, and Energy** (EGLE; formerly Michigan Department of Environmental Quality), issues this **Proposed Plan** to solicit input from the public on the proposed plan on the No Further Action decision for Area of Concern (AOC) 12, the Former Battery Storage and Maintenance Building (Site). AOC 12 is located within the Former Naval Air Station Grosse Ile (NASGI) in Wayne County, Grosse Ile, Michigan, approximately 14 miles southwest of Detroit. The former NASGI is located on the south end of Grosse Ile (**Figure 1**). Remedial response activities for this project were completed under the **Defense Environmental Response Program** (DERP) (Department of Defense [DoD] 2018) and **Formerly Used Defense Sites (FUDS)** program policy ER 200-3-1 (USACE, 2004). FUDS properties are properties that were owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense that were transferred from DoD control prior to October 17, 1986. AOC 12 was in use from approximately 1929 through the closure of former NASGI in 1969 under the jurisdiction of the Secretary of Defense. The property that includes AOC 12 was transferred from DoD control prior to October 17, 1986 and meets the definition of a FUDS property. The FUDS program policy stipulates that **hazardous substances, pollutants, or contaminants** are to be addressed according to the provisions of the **Comprehensive Environmental Response, Compensation, and Liability Act of 1980**, as amended by the **Superfund Amendments and Reauthorization Act of 1986** 42 U.S.C. 9601 et seq. **(CERCLA)**; the **National Oil and Hazardous Substances Pollution Contingency Plan**, 40 CFR 300 (NCP); and applicable DoD and Army policies.

Mark Your Calendar for the Public Comment Period

Public Comment Period: September 1, 2021, to October 5, 2021

Submit Written Comments

Comments on the Proposed Plan will be accepted during the public comment period.

Submit written comments to the addresses provided below (postmarked by October 5, 2021).

Charles Delano
Public Affairs Specialist
Environmental and Military Programs
U.S. Army Corps of Engineers, Louisville District
600 Dr. Martin Luther King Jr. Place
Louisville, KY 40202-2232
(502) 315-6769
charles.w.delano@usace.army.mil

Attend the Public Meeting: September 16, 2021, 6:00 p.m.

Merle Solomon Board Room on the second floor of the Grosse Ile Township Hall. During this public meeting, USACE will provide an overview of the AOC, investigation findings, and the preferred alternative; answer questions; and receive public comments.

Information Repository Locations

Copies of this document and other site-related materials are available online at http://www.lrl.usace.army.mil/GrosseIleNavalAirStation/ and at:

Bacon Memorial District Library
45 Vinewood Street
Wyandotte, MI
(734) 246-8357

USACE Louisville District
Romano Mazzoli Federal Building
600 Martin Luther King, Jr. Place
Louisville, KY 40202-2232
(502) 315-3829

(A glossary of specialized terms used in this Proposed Plan begins on page 6. Words included in the glossary are indicated in **bold type** the first time they appear in this Proposed Plan.)

USACE, acting in accordance with Section 121 of CERCLA as well as with the FUDS program policy, has determined that the No Further Action decision at AOC 12 is protective of human health and the environment from historical DoD activities, and that five-year reviews are not required. This Proposed Plan provides the rationale for the recommendation, presents the evaluation of the No Further Action decision, and explains how the public can participate in the decision-making process. Information relied upon by USACE in making its decision may be found in the **Administrative Record**, copies of which may be found at the Information Repositories identified on page 1.

Comments on the Proposed Plan can be submitted during the public comment period, which runs from September 1, 2021, to October 5, 2021. USACE, with support from EGLE, will select the **remedy** or make a No Further Action Decision for the Site after reviewing and considering information submitted during the public comment period. Community involvement is critical, and the public is encouraged to review and comment on this Proposed Plan.

The selected remedy or decision, along with responses to all comments received on the Proposed Plan, will be documented in a **Decision Document** for the Site.

USACE is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of CERCLA and Section 300.430(f)(3) of the NCP.

Site Description and History

AOC 12 is part of the Former NASGI, FUDS property number E05MI0123. The land used to develop the NASGI facility was formerly used for farming (Groh farm). In September 1929, a 346-acre Naval Reserve Aviation Base was constructed. In 1932, the State of Michigan purchased the airport and leased it to the Naval Reserve Aviation Base (Keisel, K.M. and the Grosse Ile Historical Society, 2011). The Navy purchased or appropriated approximately 602 acres previously owned by the State of Michigan and private landholders between 1940 and 1942. In 1942, the Navy changed the facility designation to "U.S. Naval Air Station." The Army acquired 52.53 acres from the Navy and an additional 10.55 acres from the surrounding landowners from 1954 through 1957 for use as a Nike Missile Site (Nike Site D-51) and used the site through 1963.

Current use of the former NASGI facility includes the Grosse Ile Commerce Park and Municipal Airport, the 40-acre Gibraltar Bay Unit of the Detroit River International Wildlife Refuge (part of former Nike Missile Site D-51), and the U.S. Environmental Protection Agency (EPA) Large Lakes Research Center, which occupies several former NASGI buildings. The airport leases buildings on 8 acres of land north of Groh Road to small, light-industrial companies.

AOC 12 includes Building 28 and an area approximately 100 feet long by 80 feet wide around Building 28 (**Figure 2**). AOC 12 is located within a developed area north of the flight apron and outside the fenced boundary of the airport. Land Use at AOC 12 is Nonresidential Land Use and zoned as Airport District, A-1. The future use of the former NASGI property is anticipated to remain as an airport. The future use of AOC 12 is anticipated to remain as a nonresidential commerce area.

Building 28 was used for battery storage and maintenance during Navy operations. According to former Navy personnel, battery acid may have been **released** to the ground through a floor drain inside the building (EEG, 2007). Two 15,000-gallon underground storage tanks (USTs), USACE USTs 9 and 10 (also designated State Police Fire Marshall USTs 12 and 13) containing bunker C fuel oil were formerly present east of Building 28 and are part of AOC 12 (EEG, 2007). The soil surrounding former USTs 9 and 10 at AOC 12 was excavated to 12 feet below ground surface (bgs) when the USTs were removed in 1993. A former 200-gallon gasoline UST (UST 11) was present northeast of Building 28 within the

boundary of AOC 12 and identified as AOC 13. The former 200-gallon gasoline UST at AOC 13 was administratively closed in 2021.

AOC 12 Characteristics

AOC 12 encompasses an area approximately 100 feet long by 80 feet wide outside the fenced boundary of the airport, north of the flight apron (**Figure 2**). The land surface across AOC 12 is predominately flat.

AOC 12 is bounded on all sides by land designated for airport use (i.e., nonresidential Land Use). Access to AOC 12 is not controlled. The area is mowed and maintained, and therefore offers limited viable terrestrial ecological habitat. There is one building (Building 28) located on AOC 12 that is locked and used for storage. The storage building is not occupied by site workers.

Several environmental investigation activities have been performed to determine the nature and extent of contamination and whether contaminant concentrations in site media would pose potentially unacceptable risks to human health and the environment. The investigation activities included the initial contamination evaluation in 1990, UST removals in 1993, a subsequent site inspection in 1996, and a phased **Remedial Investigation (RI)** completed between 2002 and 2006. In 2019, additional RI activities were conducted to characterize the nature and extent of **chemicals of potential concern** (COPCs) related to DoD activities. The additional RI activities included a third-party utility locate to determine the configuration of the Building 28 drainage system and identify underground utility lines to further refine the conceptual site model. Based on results of the third-party utility locate, the floor drain in Building 28 extends vertically and terminates at an unknown depth. No piping associated with the floor drain was observed or detected beyond Building 28. AOC 13 is within the boundary of AOC 12; therefore, sample results from the removal of former UST 11 and data from the additional investigations associated with AOC 13 are included in the RI Addendum to support evaluation of conditions at AOC 12. The findings are presented in the *Final AOC 12 Former Battery Storage and Maintenance Building (Building 28) Remedial Investigation Addendum Report* (Final RI Addendum Report) (USACE, 2020).

Soils at AOC 12 consist of clay with varying amounts of silt and fine- to coarse-grained sand to 12 feet bgs according to the 1996 site investigation (Parsons, 1998) and phased RI (EEG, 2007). The anticipated depth to **bedrock** at AOC 12 is approximately 30 feet bgs; however, no bedrock was encountered during any investigations. A cross-sectional figure that shows the soil underlying AOC 12 is presented in the phased RI report (EEG, 2007).

Groundwater was encountered at approximately 10 to 12 feet bgs at AOC 12 in soil borings and temporary wells installed as part of the 1996 investigation (Parsons, 1998). Shallow groundwater is encountered within thin, disconnected lenses of sand and fine gravel within the clay lake (lacustrine) deposits. These thin lenses do not produce enough yield for a potable drinking water source (EEG, 2007). The regional groundwater flow direction in the area of AOC 12 is southwest toward the Trenton Channel (**Figure 3**) (EEG, 2007). The only drinking water source for Grosse Ile is surface water from a water treatment plant in Wyandotte, Michigan. The potable drinking water intake is located upgradient of and approximately 1 mile north of the former NASGI facility, in the Detroit River. Bedrock wells on Grosse Ile and in most of Wayne County yield water that is too highly mineralized for human consumption. Township municipal code § 268-20 requires water outlets not sourced from the municipal system which could be used for potable or domestic purposes to be labelled "WATER UNSAFE FOR DRINKING."

The nearest surface water body to AOC 12 is Frenchman Creek, located approximately 2,000 feet west-northwest from the AOC. There is no hydraulic connection between the groundwater at AOC 12 and Frenchman Creek.

Surface Soil

Surface soil samples at AOC 12 are defined as soil samples collected within 2 feet of ground surface (except for sample GI12-SS12, which was collected between approximately 0 and 3

feet bgs). Twelve surface soil samples were collected at AOC 12 and AOC 13 during multiple investigations conducted from 1990 to 2005. Surface soil analytical results were compared to Federally established EPA Residential Soil Regional Screening Levels (RSLs) (EPA, 2019) and applicable EGLE Part 201 Cleanup Criteria (MDEQ, 2018). Metals in surface soil were first assessed against **regional background levels** presented in the 2015 EGLE Background Soil Survey for the Huron-Erie Lobe (MDEQ, 2015). If concentrations were greater than regional background levels, the concentrations were then compared to the EPA Residential Soil RSLs and applicable EGLE Part 201 Cleanup Criteria. Surface soil sample locations are presented on **Figure 4**.

The only metal COPCs detected in surface soil at levels greater than background levels and at least one applicable criterion were arsenic (above the EPA Residential Soil RSL and Part 201 residential direct contact criterion) and chromium (above the EPA Residential Soil RSL) at GI12-SS12. However, the location of sample GI12-SS12 was excavated during UST removal, and these concentrations are no longer present onsite. There were no organic COPCs detected in surface soil at levels greater than applicable criteria. The findings are presented in the Final RI Addendum Report (USACE, 2020) and summarized below by media.

Subsurface Soil

Subsurface soil samples at AOC 12 are defined as soil samples collected at depths greater than 2 feet of ground surface. Thirty-eight subsurface soil samples were collected during multiple investigations between 1996 to 2005. Subsurface soil analytical results were compared to Federally established EPA Residential Soil RSLs (EPA, 2019) and applicable EGLE Part 201 Cleanup Criteria (MDEQ, 2018). Metals in subsurface soil were first assessed against regional background levels presented in the 2015 EGLE Background Soil Survey for the Huron-Erie Lobe (MDEQ, 2015). If concentrations were greater than regional background levels, the concentrations were then compared to the EPA Residential Soil RSLs and applicable EGLE Part 201 Cleanup Criteria. Subsurface soil sample locations are presented on **Figure 4**.

The only metal COPC detected in subsurface soil greater than background levels was lead. However, the concentrations were less than the EPA Residential Soil RSL and Part 201 residential direct contact criterion. There were no organic COPCs detected in subsurface soil at levels greater than applicable criteria. The findings are presented in the Final RI Addendum Report (USACE, 2020).

Groundwater

Two groundwater samples were collected from AOC 12, and five groundwater samples were collected from AOC 13. Samples were analyzed for **benzene, toluene, ethylbenzene, xylene** (BTEX) and **semivolatile organic compounds** (SVOCs) at AOC 12 and BTEX at AOC 13. One groundwater sample from AOC 13 was submitted for analysis of the full **volatile organic compound** (VOC) target compound list. Groundwater analytical results were compared to Part 201 criteria for residential groundwater volatilization to indoor air inhalation. Groundwater at AOC 12 is encountered within thin, disconnected lenses of sand and fine gravel in **glacial deposits**, is highly mineralized, and there is insufficient yield to sustain a potable source. Therefore, the drinking water pathway is not relevant. The groundwater sample locations are presented on **Figure 4**.

No VOCs or SVOCs were detected in groundwater at concentrations greater than the Part 201 residential groundwater volatilization to indoor air inhalation criteria.

Summary of Risks

A baseline risk assessment was conducted as part of the RI Addendum to characterize potential risks to human health and ecological populations (plants and animals). This section summarizes the findings of the human health and ecological risk assessments.

Human Health Risks

Based on the current and potential future Land Use activities on AOC 12, and to evaluate baseline conditions for unlimited use and unrestricted exposure for all Receptor/Land

Uses, the following potential receptors were identified:

- Current and future utility workers and visitors (adults and youth ages 6 to 16 years) through direct contact and dust emissions.
- Current and future site workers (maintenance workers and third-party lessees) through direct contact and dust emissions.
- Hypothetical future residents through direct contact and dust emissions.

No **chemicals of concern** (COCs) were identified for the Residential Receptor. Therefore, the site meets Residential Land Use and unlimited use and unrestricted exposure conditions. No further actions are required from a human health perspective.

Ecological Risks

The soil surrounding former USTs 9 and 10 at AOC 12 was excavated to 12 feet bgs during UST removal. Soil samples collected in 1990, 1993, 1996, and between 2002 and 2005 indicate the remaining surface and subsurface soils are below screening or background levels. There is no surface water body located on AOC 12. Additionally, there is no hydraulic connection between the groundwater and surface water. An ecological assessment was not conducted because there is no ecologically relevant pathway anticipated at AOC 12.

Remedial Action Objectives

Typically, under the CERCLA process, **remedial action** objectives are developed for protection of human health and the environment. Based on the findings and conclusions of the Final RI Addendum Report (USACE 2020), no COCs were identified for the Residential Receptor, and no further action is necessary to protect human health or the environment at AOC 12. Therefore, no remedial action objectives need to be developed for AOC 12.

Summary of Remedial Alternatives

The findings and conclusions in the Final RI Addendum Report (USACE, 2020) demonstrate no COCs were identified for the Residential Receptor, indicating no further action is necessary to protect human health or the environment at AOC 12. Therefore, development of remedial alternatives for AOC 12 is not required.

Evaluation of Remedial Alternatives

A **feasibility study**, including an evaluation of alternatives was not conducted because it was determined that no further action was necessary to protect human health and the environment at AOC 12.

Preferred Alternative

The RI Addendum results support the determination that there is no COCs for human health or the environment at AOC 12. As no COCs have been identified, USACE, in coordination with EGLE, is recommending no further DoD action as the preferred alternative for AOC 12 at the former NASGI. EGLE concurs with USACE's recommendation for no further action as the preferred alternative. The preferred alternative may change in response to public comment. If the recommendation is selected, no additional environmental investigation or environmental response action associated with AOC 12 will be performed, and USACE's environmental actions will be considered complete.

Community Participation

Public participation is a component of **remedy** selection. USACE and EGLE are requesting input from the community on the Proposed Plan to take no further action. The comment period extends from September 1, 2021, to October 5, 2021.

The comment period provides an opportunity for public involvement in the decision-making process for the proposed action. USACE and EGLE will consider all public comments before selecting the remedy or making a No Further Action decision. The public is encouraged to

review and comment on this Proposed Plan. During the public comment period, the public is encouraged to review documents located in the Administrative Record pertinent to the investigation and development of the proposed remedy for the Site.

If the public would like to comment in writing on the Proposed Plan, please mail or email written comments (postmarked or emailed no later than October 5, 2021) to the address provided on page 1 of this Proposed Plan.

USACE plans to hold a public meeting at 6:00 p.m., September 16, 2021. The meeting will provide an opportunity for the public to verbally comment on this Proposed Plan.

Key References

Ellis Environmental Group, LC (EEG). 2007. *Remedial Investigation Report, Phases I and II, Former Naval Air Station Grosse Ile, MI*. May.

Keisel, K.M. and the Grosse Ile Historical Society. 2011. Images of Aviation: U.S. Naval Air Station Grosse Ile, Arcadia Publishing.

Michigan Department of Environmental Quality (MDEQ). 2015. Michigan Background Soil Survey 2005. (Updated 2015.) https://www.michigan.gov/documents/deq/deq-rrd-MichiganBackgroundSoilSurvey_495685_7.pdf.

Michigan Department of Environmental Quality (MDEQ). 2018. Cleanup Criteria Requirements for Response Activity. (Formerly the Part 201 Generic Cleanup Criteria and Screening Levels.) https://www.michigan.gov/deq/0,4561,7-135-3311_4109-251790--,00.html.

Parsons Engineering Science, Inc. (Parsons). 1998. *Expanded Field Investigation Final Report for the Former Grosse Ile Naval Air Station/Nike Site D-51, Grosse Ile, Michigan*. September.

U.S. Army Corps of Engineers (USACE). 2004. *Environmental Quality Formerly Used Defense Sites (FUDS) Program Policy Regulation No. ER 200-3-1*. May.

U.S. Army Corps of Engineers (USACE). 2020. *Final AOC 12 Former Battery Storage and Maintenance Building (Building 28) Remedial Investigation Addendum Report*. September.

U.S. Department of Defense. 2018. *Defense Environmental Restoration Program (DERP) Management*. No. 4715.20. https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/471520m.pdf.

U.S. Environmental Protection Agency (EPA). 2019. *Regional Screening Levels for Chemical Contaminants at Superfund Sites*. November.

Glossary

Administrative Record: A file of documents that form the basis for the selection of a response action compiled and maintained by the lead agency.

Bedrock: Unbroken, solid rock overlain by soils and rock fragments.

Benzene, toluene, ethylbenzene, xylene (BTEX): Volatile organic compounds commonly found in aviation fuel and gasoline.

Chemical of Concern (COC): Chemical detected in environmental media that causes unacceptable risk to human health or ecological receptors.

Chemical of Potential Concern (COPC): Chemical detected in environmental media that may cause unacceptable risk to human health or ecological receptors.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law established in 1980 and modified in 1986; also known as "Superfund." CERCLA established a nationwide process for cleaning up hazardous waste sites that potentially endanger public health and the environment.

Decision Document: A CERCLA requirement that documents the final cleanup decision for a site, provides the rationale for selecting the cleanup remedy, and establishes performance goals for achieving cleanup.

Defense Environmental Response Program (DERP): A program authorized by Congress in 1986 that promotes and coordinates efforts for the evaluation and cleanup of contamination at Department of Defense installations and Formerly Used Defense Sites.

Feasibility Study: A study undertaken by the lead agency to develop and evaluate options

for remedial action. The RI data are used to define the objectives of the response action, to develop remedial action alternatives, and to undertake an initial screening and detailed analysis of the alternatives. The term also refers to a report that describes the results of the study.

Formerly Used Defense Site (FUDS): A facility or site which was under the jurisdiction of the Department of Defense before October 17, 1986, and owned by, leased to, or otherwise possessed by the United States at the time of actions leading to contamination by hazardous substances, for which the Department of Defense shall carry out all response actions with respect to releases of hazardous substance from that facility or site.

Glacial deposits: Soil, rocks, and other material eroded, transported and deposited by the movement of glaciers.

Groundwater: Water in a saturated zone or stratum beneath the surface of land or water.

Hazardous substance:

- any substance designated pursuant to section 311(b)(2)(A) of the Federal Water Pollution Control Act [33 U.S.C. 1321 (b)(2)(A)],
- any element, compound, mixture, solution, or substance designated pursuant to section 9602 of CERCLA,
- any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act [42 U.S.C. 6921] (but not including any waste the regulation of which under the Solid Waste Disposal Act [42 U.S.C. 6901 et seq.] has been suspended by Act of Congress),
- any toxic pollutant listed under section 307(a) of the Federal Water Pollution Control Act [33 U.S.C. 1317 (a)],
- any hazardous air pollutant listed under section 112 of the Clean Air Act [42 U.S.C. 7412], and
- any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act [15 U.S.C. 2606].
- The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Michigan Department of Environment, Great Lakes, and Energy (EGLE; formerly Michigan Department of Environmental Quality): The state agency in Michigan responsible for enforcing state laws protecting the environment.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The plan revised pursuant to 42 USC 9605 and found at 40 CFR 300 that sets out the plan for hazardous substance remediation under CERCLA.

Pollutant or contaminant: Any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring; except that the term "pollutant or contaminant" shall not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) and shall not include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas).

Proposed Plan: A document required by CERCLA that informs the public about alternatives that are considered for cleanup of

a contaminated soil and identifies a preferred cleanup alternative.

Public comment period: A reasonable period of time, of at least 30 days, for the public to review and comment on various documents and actions.

Regional background level: The State of Michigan has established background metals concentrations based on the range of metals naturally occurring in geologically similar areas of the state. The levels are based on soil types (topsoil, sand, or clay) and the geographic locations (glacial lobes) presented in the 2015 Michigan Background Soil Survey (EGLE, 2015). The background metals concentrations are not related to a release of hazardous substances due to site activities. The glacial lobes have varying points of origin and traverse differing types of bedrock; therefore, the resulting glacial sediments have varying chemical characteristics based on the source rock. The Huron-Erie Glacial Lobe background values are considered applicable for the former NASGI facility.

Release: Any 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), but excludes

- any release which results in exposure to persons solely within a workplace,
- release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954 [42 U.S.C. 2011 et seq, and
- the normal application of fertilizer.

Remedial action: Those actions consistent with a permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health, welfare, or the environment. The term includes, but is not limited to, such actions at the location of the release as storage; confinement; perimeter protection using dikes, trenches, or ditches; clay cover; neutralization; cleanup of released hazardous substances and associated contaminated materials; recycling or reuse; diversion; destruction; segregation of reactive wastes; dredging or excavations; repair or replacement of leaking containers; collection of leachate and runoff; onsite treatment or incineration; provision of alternative water supplies; and any monitoring reasonably required to assure that such actions protect the public health, welfare, and the environment.

Remedial Investigation (RI): A process undertaken by the lead agency to determine the nature and extent of the problem presented by the release. The RI emphasizes data collection and site characterization and is generally performed concurrently and in an interactive fashion with the feasibility study. The RI includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for remedial action and to support the evaluation of remedial alternatives.

Remedy: The selected remedial action.

Semivolatile Organic Compound (SVOC): An organic compound that tends to have a higher molecular weight and higher boiling point temperature. The health effects of these chemicals depend on their chemical nature and on the degree of exposure.

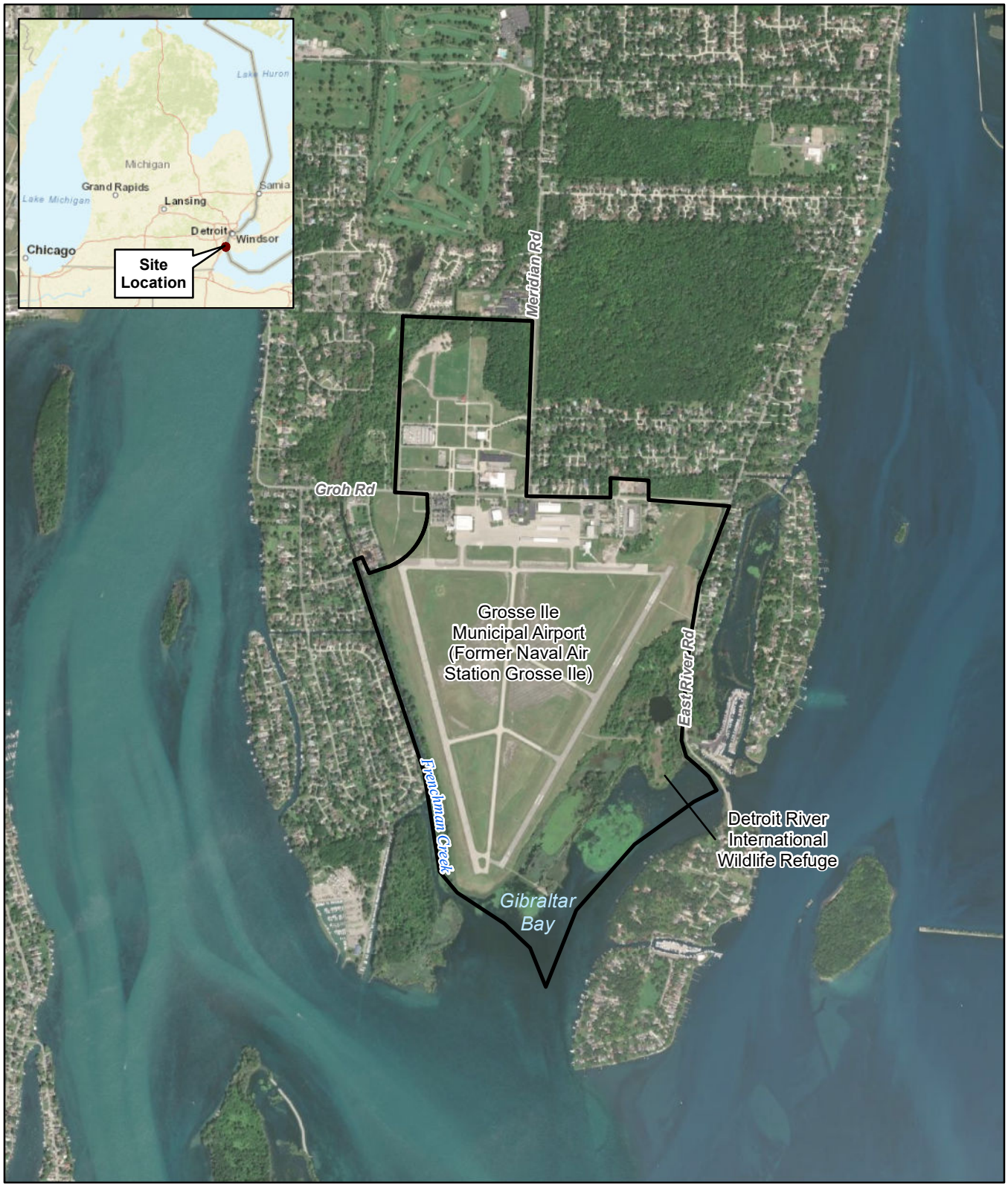
Superfund Amendments and Reauthorization Act of 1986: In addition to certain free-standing provisions of law, it includes amendments to CERCLA, the Solid Waste Disposal Act, and the Internal Revenue Code. Among the free-standing provisions of law is Title III of SARA, also known as the "Emergency Planning and Community Right-to-Know Act of 1986" and Title IV of SARA, also known as the "Radon Gas and Indoor Air Quality Research Act of 1986." Title V of SARA amending the Internal Revenue Code is also known as the "Superfund Revenue Act of 1986."

U.S. Army Corps of Engineers (USACE): The lead agency for implementing the Formerly Used Defense Site Program in Michigan for the Department of Defense.

Volatile Organic Compound (VOC): An organic chemical that readily produces vapors at ambient temperatures. Some of these chemicals may have short- and long-term adverse health effects.

Abbreviations

AOC	Area of Concern
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	chemical of concern
COPC	chemical of potential concern
DERP	Defense Environmental Response Program
DoD	U.S. Department of Defense
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EPA	U.S. Environmental Protection Agency
FUDS	Formerly Used Defense Site
MDEQ	Michigan Department of Environmental Quality
NASGI	Naval Air Station Grosse Ile
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
RI	Remedial Investigation
RSL	Regional Screening Level
SVOC	semivolatile organic compound
USACE	U.S. Army Corps of Engineers
UST	underground storage tank
VOC	volatile organic compound



LEGEND

Property Boundary

Source: Ellis Environmental Group, LC (EEG). 2007. *Remedial Investigation Report, Phases I and II, Former Naval Air Station Grosse Ile, MI.* May.

N

0 1,000 2,000

Approximate scale in feet

Figure 1. NASGI Site Location Map
Former Naval Air Station Grosse Ile
Grosse Ile, Wayne County, Michigan

\\DC1VS01\GISPROJ\U\USACE\NASGI\MAPFILES\PP\AOC12\FIGURE_1_NASGI_SITE_LOCATION.MXD AESPEJO 10/2/2020

LEGEND

Area of Concern (AOC)

Property Boundary

N

0 600 1,200

Approximate scale in feet

Figure 2. AOC 12 Location Map
Former Naval Air Station Grosse Ile
Grosse Ile, Wayne County, Michigan

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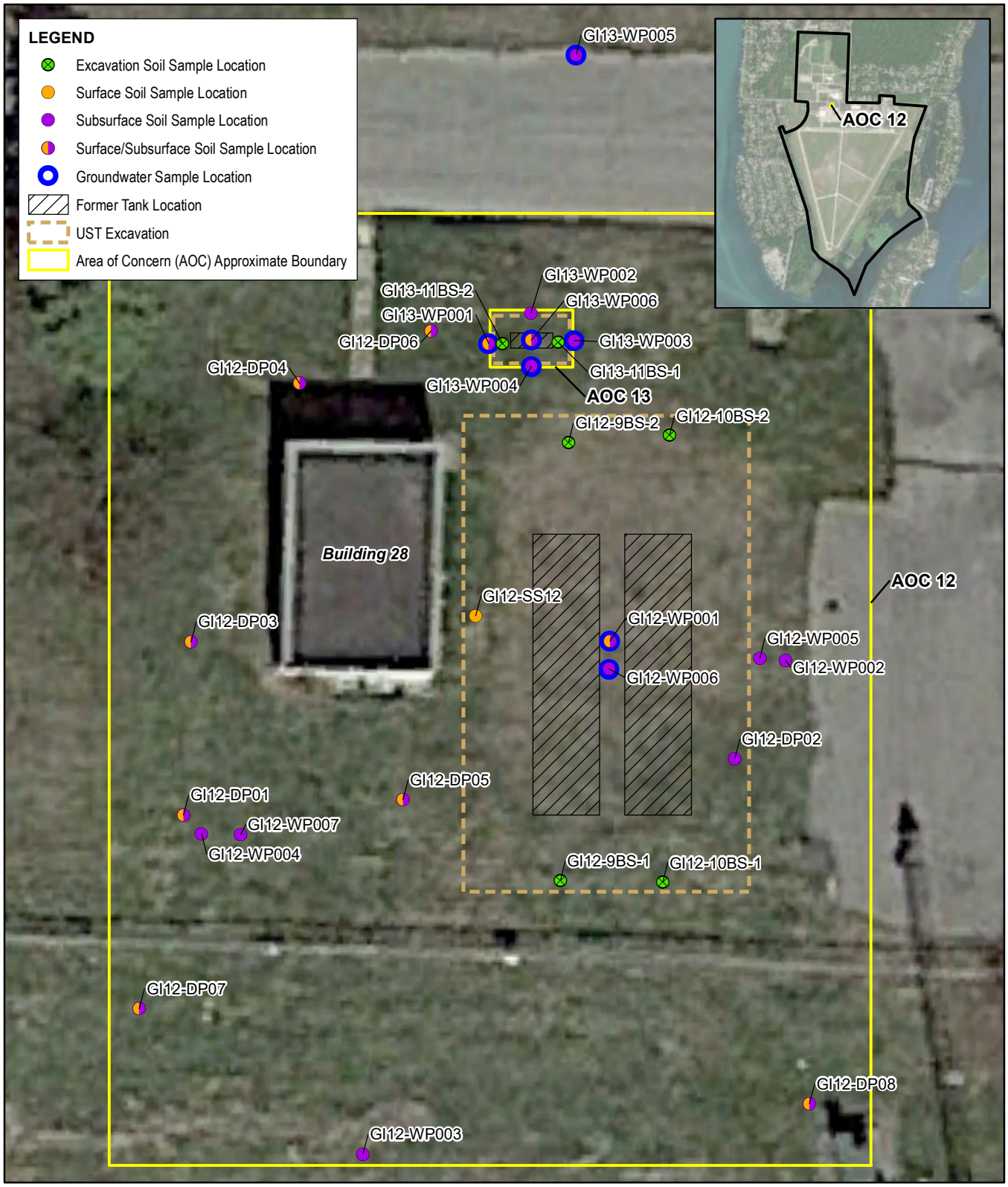
Figure 3. Regional Groundwater Flow Map
Former Naval Air Station Grosse Ile
Grosse Ile, Wayne County, Michigan

Source: Ellis Environmental Group (EEG), 2007



Note:
All locations are approximate.

Source: Ellis Environmental Group, LC (EEG). 2007. *Remedial Investigation Report, Phases I and II, Former Naval Air Station Grosse Ile, MI.* May.

N

0 7.5 15
Approximate scale in feet

Figure 4. AOC 12 Historical Soil and Groundwater Sample Locations
Former Naval Air Station Grosse Ile
Grosse Ile, Wayne County, Michigan

\\DC1VS01\GISPROJ\U\USACE\NASGI\MAPFILES\PP\AOC12\FIGURE_4_AOC12_HISTORICALSOIL_AND_GW_SAMPLELOCS.MXD AESPEJO 10/19/2020