



LAND USE CONTROL IMPLEMENTATION PLAN

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION BREVARD COUNTY, FLORIDA



FACILITY: Corrosion Atmospheric Exposure Facility
Potential Release Location #239

CONTAMINANTS: Arsenic in Soil

CONTROL: Prohibit residential use and prevent contact with affected soils by maintaining existing ground cover and conducting periodic inspections

PURPOSE OF LAND USE CONTROL IMPLEMENTATION PLAN

This Land Use Control Implementation Plan (LUCIP) has been prepared to inform current and potential future users of the Corrosion Atmospheric Exposure Facility (CAEF) of institutional controls that have been implemented at the site.¹ Although most areas at CAEF do not pose current unacceptable risks to human health or the environment, areas of arsenic-impacted soil exceeding the Florida Department of Environmental Protection (Florida DEP) residential soil cleanup target levels (SCTLs) have been identified. Institutional land use controls (LUCs) are necessary to prevent contact with surface and subsurface soils at the site. Controls will include periodic inspection, condition certification, and agency notification.

WHY LAND USE CONTROLS ARE NEEDED

Surface soil impacts from arsenic and iron were documented in the area of the Corrosion Test Area (Location of Concern [LOC 1]) and Septic Tank Area (LOC 2). The arsenic and iron impacted soil exceeds the residential SCTL. Land use controls are needed to ensure that the site is not being utilized for residential usage and ground cover is not disturbed, therefore preventing contact with surface and subsurface soils in LOC 1 and 2.

¹ This LUCIP summarizes institutional controls for the NASA CAEF site. For detailed information on the site, consult the CAEF administrative file, which is available for review by contacting the KSC Environmental Assurance Branch at (321) 867-2056.

SITE DESCRIPTION

CAEF, referred to as Potential Release Location (PRL) 239, has been in operation since the 1960s. The site consists of the Corrosion Atmospheric Exposure Facility (CAEF), Corrosion Test Area (CTA), also known as facility number K8-0237, a mobile weather station, and remote camera and field monitoring systems.

The CAEF building and CTA are used for testing and monitoring various components and products to evaluate their reaction to corrosive atmospheric environment near the ocean or the corrosive effects of seawater directly. The CTA (LOC 1) was constructed in 2000 to conduct research on the corrosive effects of seawater. In 2005, the CAEF building was constructed to support and monitor the outdoor corrosion testing area.

SITE LOCATION

CAEF is located along the Kennedy Space Center (KSC) coastline, on the east side of Samuel E. Phillips Parkway, approximately 0.75 miles north of Cape Canaveral Space Force Station's Space Launch Complex 41 (Figure 1).

Coordinates of the boundary corners for the soil LUCs are provided for LOC 1 and LOC 2 on Figures 2 and 3, respectively, in the State Plane Coordinate System, North American Datum (NAD) 1983, Florida East, meters.

SITE CONTAMINATION AND CONTROL

Soil contamination at concentrations greater than the Florida DEP's residential SCTL for arsenic and iron are present at the site. In June 2020, a Solid Waste Management Unit (SWMU) Assessment Report (SAR)/Confirmatory Sampling Work Plan (CSWP) was completed for the site, during which four LOCs were identified. The CTA was identified as LOC 1, the Septic Tank Area (STA) was identified as LOC 2, former CAEF test site as LOC 3, and the CAEF test site was LOC 4.

Confirmatory sampling was completed between October 2020 and December 2021 at all four LOCs. Initially, surface soil (0-0.5 feet [ft] below land surface [bgs]) samples and Direct-Push Technology (DPT) groundwater samples were collected from the LOCs.

Following arsenic concentrations exceeding the residential and industrial SCTL, additional soil samples were collected to delineate arsenic impacts. Arsenic concentrations above the SCTL were identified from land surface to six feet bgs with concentrations exceeding the industrial SCTL from land surface to 0.5 ft bgs. Arsenic and iron impacts exceeding the residential SCTL were identified at LOC 2. LOC 3 and 4 soil and groundwater results were all below their respective SCTLs and groundwater cleanup target levels (GCTL).

In March 2024, 14.75 tons of arsenic impacted soil exceeding the industrial SCTL was removed from LOC 1. Soil was excavated from land surface to 0.5 ft bgs. A monitoring well was also installed and sampled within the excavation area and results were below the GCTL for

arsenic. Arsenic and iron soil concentrations that exceed the residential SCTL but below the industrial SCTL remain on site. The past, current, and projected future land use of the site is industrial in nature. LUCs are therefore required to prohibit residential use and contact with affected soil at LOC 1 and LOC 2.

IMPLEMENTATION

Institutional controls will be implemented by the KSC Environmental Assurance Branch in accordance with their Resource Conservation and Recovery Act (RCRA) permit and LUCIP included in a Memorandum of Agreement (MOA)² between NASA, Florida DEP, and the U.S. Environmental Protection Agency (EPA), effective February 23, 2001. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the MOA.

KSC's Environmental Assurance Branch will provide KSC's Master Planning Office and the Cape Canaveral Space Force Station Installation Restoration Program with survey coordinates of the PRL 239 LUC areas. Restrictions will specify limitations on development and reuse for the area for as long as LUCs are necessary to protect human health and the environment.

MONITORING

Quarterly inspections to monitor that the LUCs specified herein are in place and operating will be conducted by KSC's Environmental Assurance Branch. The inspections will verify that no residential use is occurring, and ground cover has not been disturbed therefore preventing contact with surface and subsurface soils in these areas.

² By separate MOA effective February 23, 2001, with the EPA and FDEP, KSC, on behalf of NASA, agreed to implement Center-wide, certain periodic site inspections, condition certification, and agency notification procedures designed to ensure the maintenance by Center personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Center's substantial good faith compliance with the procedures called for herein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies, which included the use of specific LUCs.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by NASA KSC, EPA, and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent upon the Center's substantial good faith compliance with the specific LUC maintenance commitments reflected herein. Should such compliance not occur, or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

REPORTING

KSC's Environmental Assurance Branch will submit annual reports to Florida DEP certifying retention of the implemented LUCs.

ENFORCEMENT

KSC's Environmental Assurance Branch will be responsible for preventing any activities that are not compliant with this LUCIP.

MAINTENANCE

The LUCIP shall remain in place until a land use change is implemented, or the concerns managed by the LUCIP are mitigated, or until there is a discovery, based on analytical evidence, that scenarios managed by the LUCIP are no longer a concern. Any change in LUC management must be approved by modification of NASA's RCRA operating permit.

SITE-SPECIFIC DOCUMENT REFERENCES

Site-specific documentation is available for review by contacting the KSC Environmental Assurance Branch at (321) 867-2056.

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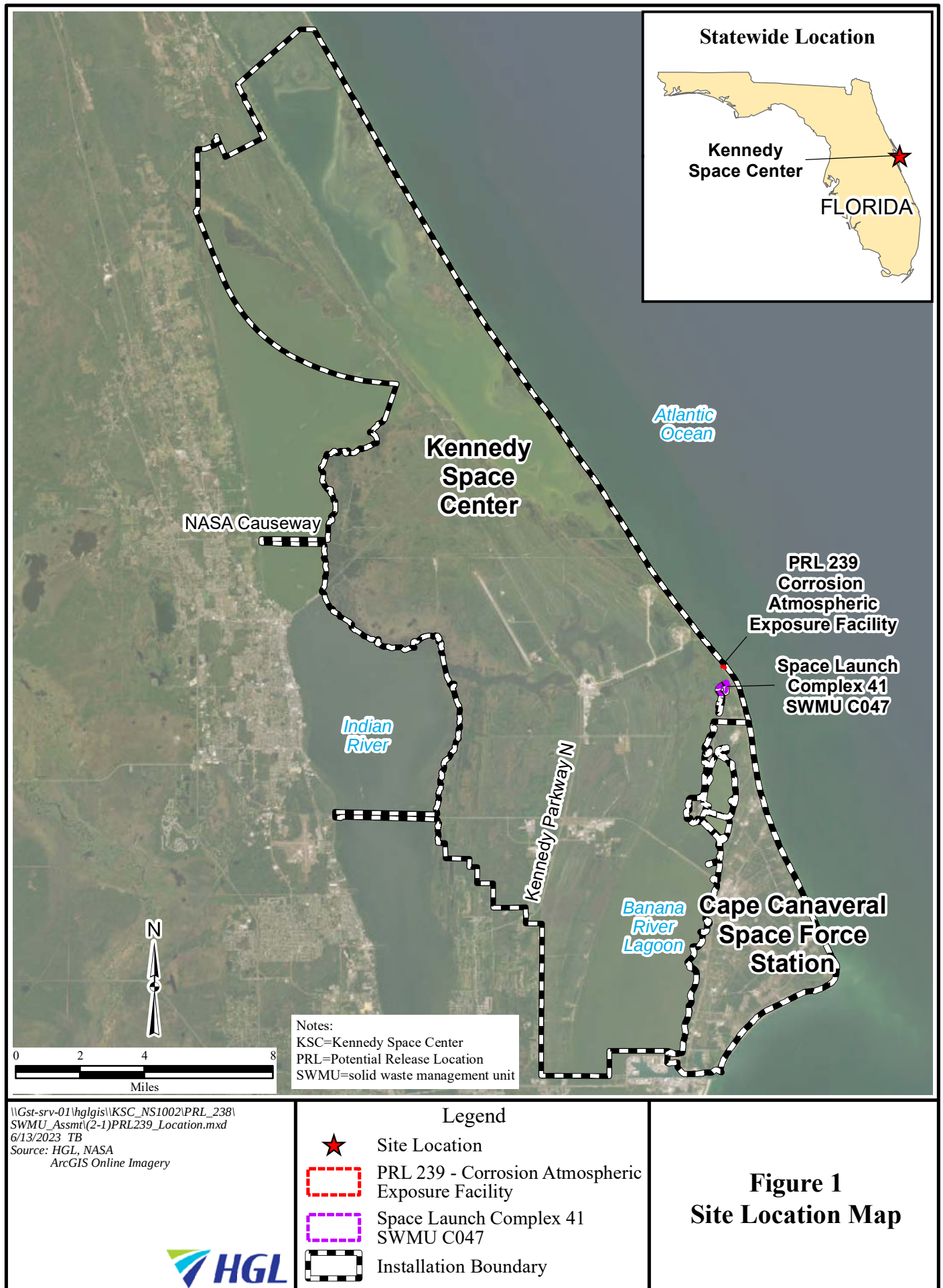




Figure 2

LOC 1

LUC Boundary

Legend

-  LUC Boundary
-  PRL Site 239

Notes:
LOC=location of concern
LUC=land use control
PRL=potential release location

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Figure 3
LOC 2
LUC Boundary

Legend

-  LUC Boundary
-  PRL Site 239

Notes:
LOC=location of concern
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