



## INTERIM LAND USE CONTROL IMPLEMENTATION PLAN



### NATIONAL AERONAUTICS AND SPACE ADMINISTRATION KENNEDY SPACE CENTER BREVARD COUNTY, FLORIDA

**FACILITY:** Hypergol Maintenance Facility North  
Solid Waste Management Unit 090

**CONTAMINANTS:** Volatile Organic Compounds and 1,4-dioxane in Groundwater

**CONTROL:** Prohibit Groundwater Use

#### PURPOSE OF LAND USE CONTROL IMPLEMENTATION PLAN

This Interim Land Use Control Implementation Plan (LUCIP) has been prepared to inform current and potential future users of the Hypergol Maintenance Facility North (HMFN) of institutional controls that have been implemented at the site<sup>1</sup>. Although there are no current unacceptable risks to human health or the environment associated with HMFN, an institutional land use control (LUC) is necessary to prohibit groundwater use at the site. Controls will include periodic inspection, condition certification, and agency notification.

#### WHY LAND USE CONTROLS ARE NEEDED

A human health risk assessment was completed as part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). Chlorinated volatile organic compounds (CVOCs), including tetrachloroethene (PCE), trichloroethene (TCE), *cis*-1,2-dichloroethene (cDCE), 1,1-

dichloroethene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), and vinyl chloride (VC) exceed the Florida Department of Environmental Protection (FDEP) groundwater cleanup target levels (GCTLs) and were identified as a potential human health risk during the RFI. Post-RFI investigations have also documented the presence of 1,4-dioxane exceeding the GCTL.

#### SITE DESCRIPTION

The HMFN site is located in the Kennedy Space Center (KSC) industrial area and consists of six numbered structures that were constructed between 1963 and 1976. These include; HMFN Building (M7-961, also known as the HMP-North Building) and formerly, its associated trailers (TR1-469, TR1-717, TR1-615); the Boresight Control Building (M7-867); General Warehouse (M7-912) (formerly Clamshell #3 M7-864); Hazardous Waste Staging Area (M7-862); Weather Tower 506 (M7-913); and Ground Support Equipment Storage Building (M7-1011) and formerly, its adjacent trailers (TR1-469, TR1-585 and TRM-038). HMFN is a customer-operated hazardous processing

<sup>1</sup> This Interim LUCIP summarizes institutional controls regarding the NASA HMFN. For detailed information on the site, consult the HMFN administrative file, which is available for review by contacting the KSC Environmental Assurance Branch at telephone number (321) 867-8402.

facility. Previous operations included refurbishment disassembly/assembly, testing, encapsulation, propellant loading, and pressurization of fuel and oxidizer lines on the Space Shuttle Aft Orbital Maneuvering Subsystem Pods.

## SITE LOCATION

The HMFN is located in the Industrial Area of KSC, at the intersection of G Avenue and Fifth Street Southeast. The facility is located in Section 4, Township 23 South, Range 37 East of the Orsino, Florida quadrangle map. The facility is bordered by undeveloped scrub pine and pine flatwoods to the north and east, coniferous/hardwood forest and upland scrub to the west, and developed industrial area to the south (Figure 1). The groundwater use control area covered by the Interim LUCIP is shown on Figure 2. Coordinates of the corners of the LUC are provided on Figure 2 in the US State Plane Coordinate System NAD 1983, meters, Florida East.

## SITE CONTAMINATION AND CONTROL

The concentrations of CVOCs and 1,4-dioxane in groundwater are above the FDEP's GCTLs. Since groundwater exceeds GCTLs, LUCs prohibiting the use of groundwater are required until the cleanup level is achieved. The current and projected land use of the HMFN does not include the use of site groundwater; therefore, there is no current or projected exposure risk.

## DECISION DOCUMENT

The Kennedy Space Center (KSC) Remediation Team determined that interim institutional controls should be implemented at HMFN. The interim institutional controls are temporary while investigation, interim measures, and corrective measures are in progress.

## IMPLEMENTATION

Institutional controls will be implemented by the KSC Environmental Assurance Branch in accordance with their RCRA permit and a Land Use Control Assurance Plan included in the Memorandum of Agreement (MOA)<sup>2</sup> between NASA and the FDEP, 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 with survey coordinates of the LUCs. 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 institutional controls specified herein are in place and operating will be conducted by KSC's Environmental Assurance Branch. The

<sup>2</sup> By separate MOA effective February 23, 2001, with the FDEP and 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 the 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 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.

inspections will verify that no groundwater use is occurring at the site.

**REPORTING**

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

**ENFORCEMENT**

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

**MAINTENANCE**

The Interim LUCIP shall remain in place until the concerns managed by the Interim LUCIP are mitigated, or until there is a discovery, based upon analytical evidence, that scenarios managed by the Interim LUCIP are no longer a concern.

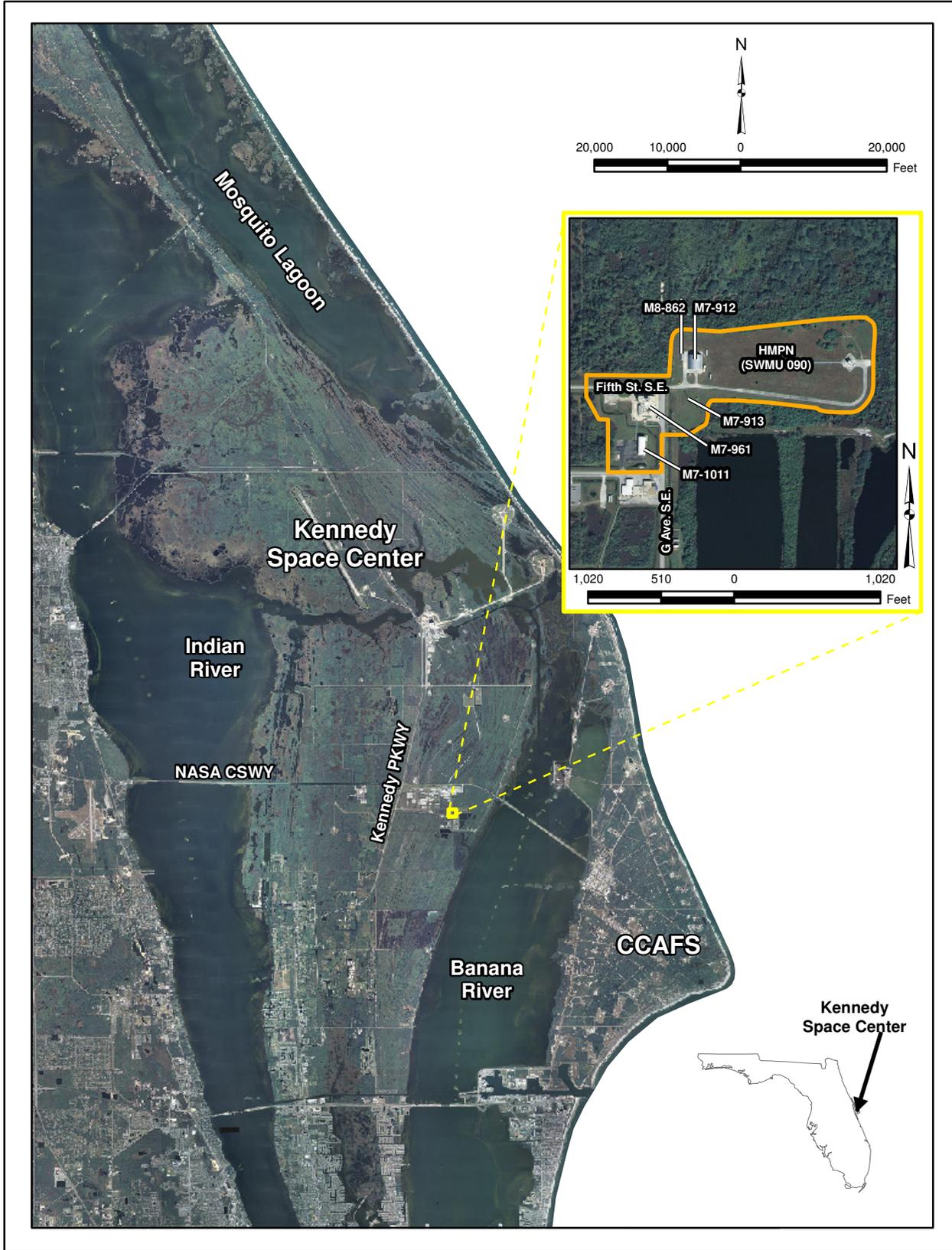
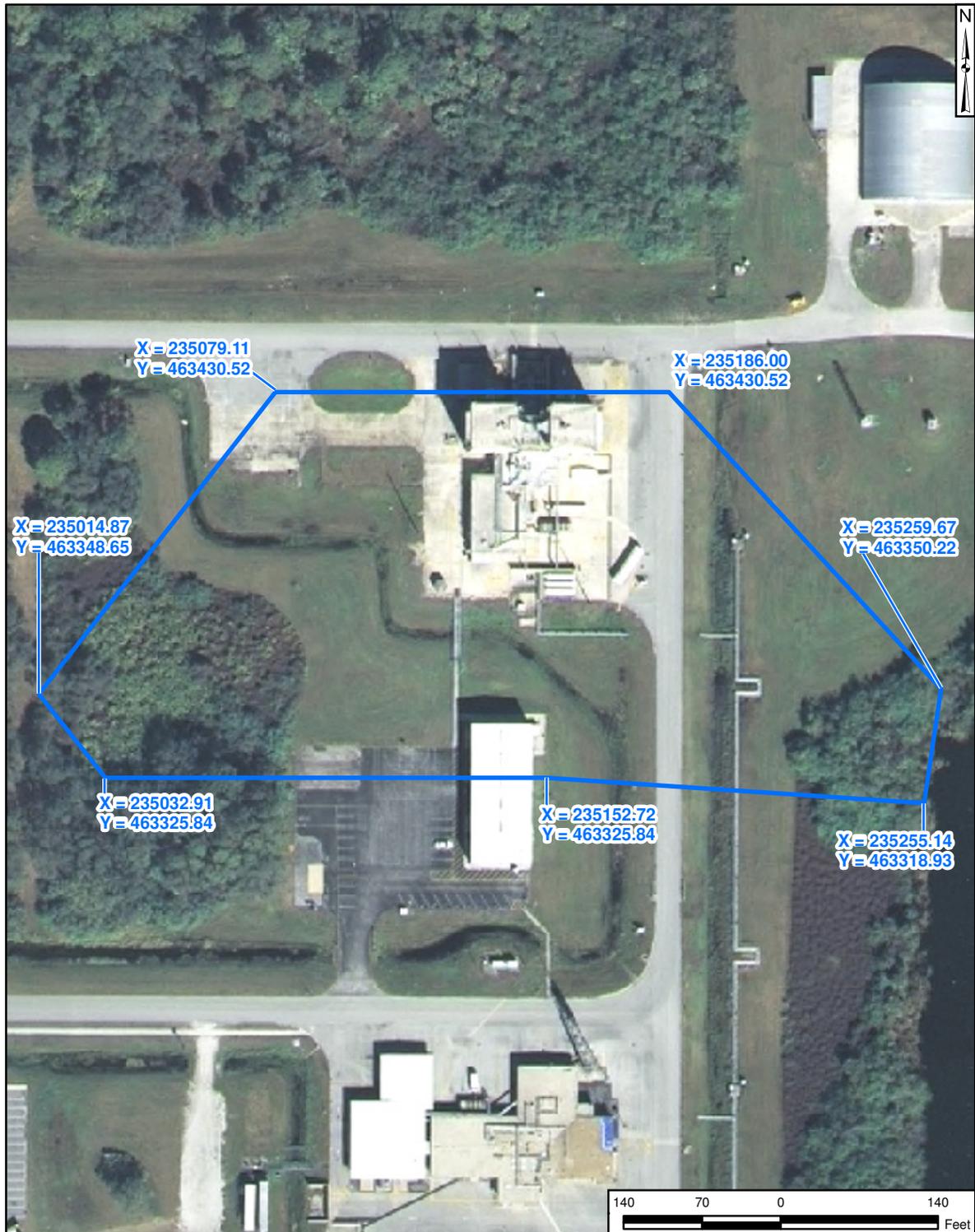


Figure 1  
Site Location Map



**Legend**

 Area Covered by Groundwater Use Control

Note:  
Coordinates are in U.S. State Plane  
Coordinate System NAD 1983, Florida East, Meters.

Figure 2  
HMPN Groundwater Use Control Area