



**LAND USE CONTROL IMPLEMENTATION PLAN
KENNEDY SPACE CENTER
CHILD DEVELOPMENT CENTER, PRL 149
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**



FACILITY: Kennedy Space Center Child Development Center
Potential Release Location 149

CONTAMINANTS: Arsenic

CONTROL: Maintain Existing Pour-in-Place Surfaces and Concrete Sidewalks in
Playground Area

**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 Kennedy Space Center Child Development Center (KCDC) of institutional controls that have been implemented at the site¹. Although there are no known unacceptable risks to human health or the environment associated with the KCDC site, institutional land use controls (LUCs) are necessary to prevent contact with 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 were documented in the area of the current pour-in-place playground surfaces. Soils below the 0.5 ft excavation were not sampled. A complete exposure pathway does not exist due to the installation of the impervious cover. Therefore, land use controls are

needed to ensure that the impervious surfaces within the fenced area of the KCDC remain unaltered.

SITE DESCRIPTION

The KCDC was constructed in 1990 specifically as a child care center for KSC employees. Prior to 1990 the area was undeveloped. The KCDC is a 6,776 square foot single story concrete block building. The building was previously owned by an outside company, Tutor Time-Space Coast, Inc.; however, ownership transferred to NASA in October 1996. The facility is comprised of classrooms, offices, open play areas, staff lounge, lunch room, kitchen, and outside playgrounds. The facility parking lot areas are located to the south and west of the building and include a semi-circular covered driveway, all are paved with concrete. The outside playground areas are located on the northeast side of the building and enclosed with privacy fencing. Within the fenced area, the playground consists of grassy areas with picnic tables, areas sealed with a pour-in-place rubberized surface, and

¹ This LUCIP summarizes institutional controls regarding the KCDC. For detailed information on the site, consult the KCDC administrative file, which is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

concrete sidewalks. The playground equipment currently consists of modular plastic structures. The site location with inset showing the site layout is shown on Figure 1.

SITE LOCATION

The KCDC is located on Fifth Street, east of Kennedy Parkway South (SR-3), in the southwestern portion of the KSC Industrial Area. The land use control area covered by the LUCIP is shown on Figure 2.

Coordinates of the corners of the LUC are provided in the State Plane Coordinate System NAD 1983 meters, Florida East.

SITE CONTAMINATION AND CONTROL

Soil at the site contained arsenic above FDEP's Residential Soil Cleanup Target Level (SCTL). Based on the Solid Waste Management Unit (SWMU) Assessment (SA), three of four identified Locations of Concern (LOCs) were excavated and backfilled and the wooden fence was removed and replaced with recycled-plastic fencing. LUCs were recommended for the fourth LOC, the impervious playground surfaces including the pour-in-place rubberized playground surfaces and concrete sidewalks, to prevent contact with

subsurface soils in that area of the KCDC facility.

IMPLEMENTATION

Institutional controls will be implemented by the Kennedy Space Center (KSC) Environmental Program Office in accordance with their RCRA permit and a Land Use Control Assurance Plan included in a Memorandum of Agreement (MOA)² between the National Aeronautics and Space Administration (NASA), FDEP, and the Environmental Protection Agency (EPA), effective February 23, 2001. Upon approval of this LUCIP, it will be incorporated into the permit by reference. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the MOA.

KSC's Environmental Program Office 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

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.

KSC's Environmental Program Office. The inspection will verify that the impervious playground surface is maintained therefore preventing contact with the subsurface soils in this area.

REPORTING

KSC's Environmental Program Office will submit annual reports to the EPA and FDEP certifying retention of the implemented LUCs.

ENFORCEMENT

KSC's Environmental Program Office will be responsible for stopping any activities at KSC that are not compliant with this LUCIP.

MAINTENANCE

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

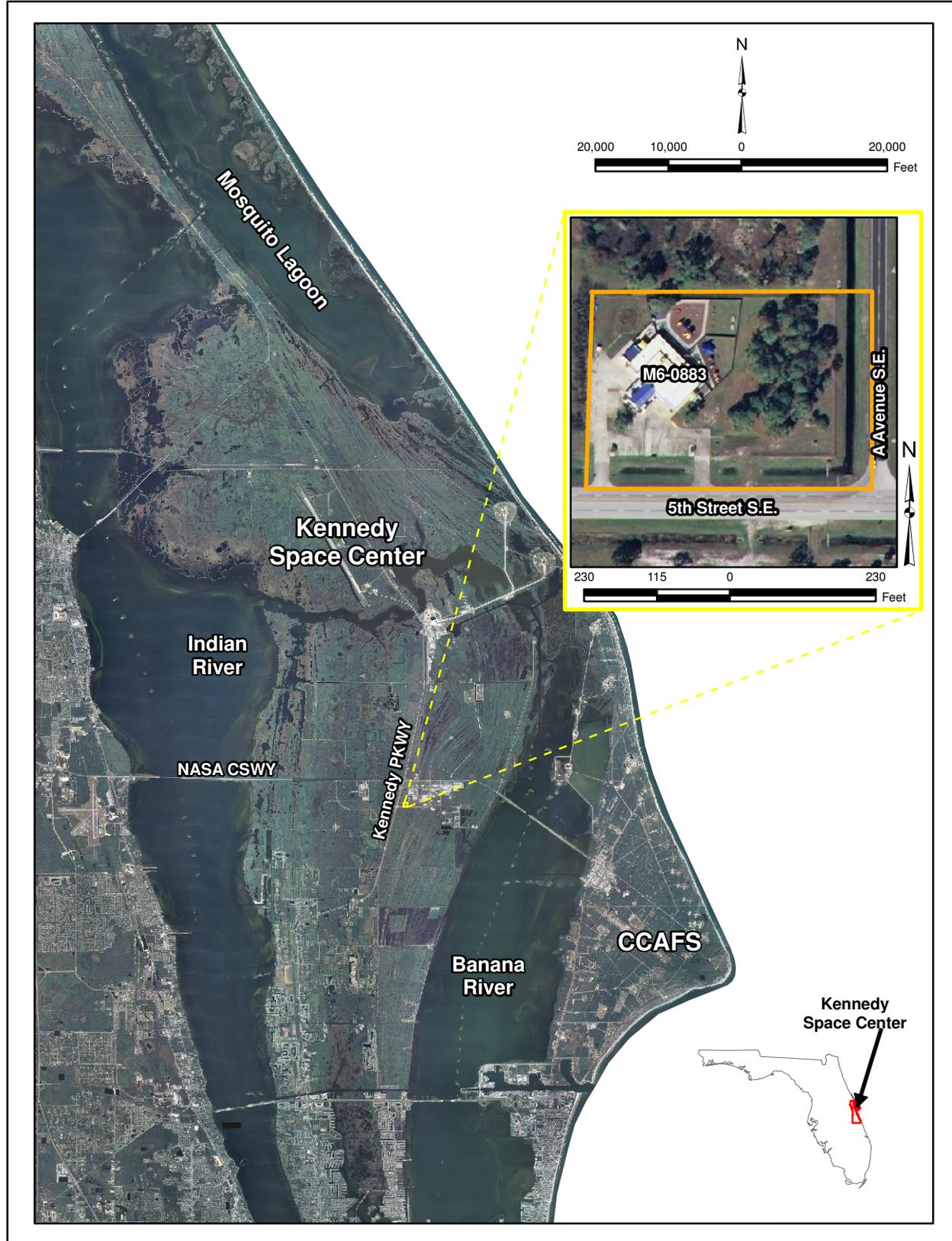


Figure 1
KSC Child Development Center Site Location Map



Figure 2
KCDC Land Use Control Area

Legend

-  Area Covered by LUCIP and Subsurface Soil Controls



Note: Survey Coordinates are in US State Plane Coordinate System NAD1983 meters, Florida East.

