STATEMENT OF BASIS

WILSON'S RAILROAD YARD, SWMU 71
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
KENNEDY SPACE CENTER
BREVARD COUNTY, FLORIDA

PURPOSE OF STATEMENT OF BASIS

This Statement of Basis (SB) has been developed to inform and give the public an opportunity to comment on a proposed remedy to address contamination at Wilson's Railroad Yard (WRRY)[1]. A Kennedy Space Center (KSC) Remediation Team consisting of National Aeronautics and Space Administration (NASA), United States Environmental Protection Agency (EPA), and Florida Department of Environmental Protection (FDEP) has determined that the proposed remedy is cost effective and protective of human health and the environment. However, prior to implementation of the proposed remedy, the KSC Remediation Team would like to give an opportunity for the public to comment on the proposed remedy. At any time during the public comment period, the public may comment as explained in the "How Do You Participate" section of this SB. After the end of the public comment period, the KSC Remediation Team will review all comments and issues raised in the comments and determine if there is a need to modify the proposed remedy prior to implementation.

WHY IS A REMEDY NEEDED?

The results of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) indicated that the polynuclear aromatic hydrocarbons (PAHs) listed in Table 1 are present in soil/dry sediment (swale soil), which could be potentially harmful to human health.

HOW DO YOU PARTICIPATE?

The KSC Remediation Team solicits public review and comment on this SB before implementing the proposed remedy. The remedy for WRRY will eventually be incorporated into the Hazardous and Solid Waste Amendments (HSWA) Permit for Kennedy Space Center (KSC).

The Cleanup Remedy

The proposed cleanup remedy for WRRY includes the following component:

- Implementation of institutional controls to prohibit residential exposure to soil/dry sediment (swale soil) and to maintain the site as a railroad yard.

The public comment period for this SB and proposed remedy will begin on the date of publication for notice of availability of the SB in major local newspapers of general circulation and end 45 days thereafter. If

1. In accordance with RCRA §7004(b), this Statement of Basis summarizes the proposed remedy for the NASA WRRY site. For detailed information on the site, consult the WRRY RFI Report, which is available for review at the information repository located at the North Brevard Library, 2121 South Hopkins Avenue, Titusville, FL 32780, telephone: (321) 264-5026.

requested during the comment period, the KSC Remediation Team will hold a public meeting to respond to any oral comments or questions regarding the proposed remedy.

To request a hearing or provide comments, contact the following person in writing within the 45-day comment period:

Mr. John Armstrong, P.G.
FDEP - Bureau of Waste Cleanup
2600 Blair Stone Road, MS 4535
Tallahassee, FL 32399-2400

The HSWA Permit, SB, and associated administrative file, including the RFI Report, will be available to the public for viewing and copying at:

NASA Document Library
North Brevard Library
2121 South Hopkins Avenue
Titusville, FL 32780
Telephone: (321) 264-5026

To request further information, you may contact one of the following people:

Mr. Harold Williams
Remediation Program Manager
Environmental Program Office
Mail Code: TA-C3
Kennedy Space Center, FL 32899
E-mail: Harold.G.Williams@nasa.gov
Telephone: (321) 867-8411

Mr. John Armstrong, P.G.
FDEP-Bureau of Waste Cleanup
2600 Blair Stone Road, MS 4535
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Telephone: (850) 245-8981

FACILITY DESCRIPTION

NASA established KSC as the primary launch site for the space program. These operations have involved the use of toxic and hazardous materials. Under the RCRA and applicable HSWA permit (Permit No. FL6800014585) issued by the FDEP and/or EPA, KSC was required to perform an investigation to determine the nature and extent of contamination from Solid Waste Management Unit (SWMU) No. 71, the WRRY site.

SITE DESCRIPTION AND HISTORY

The WRRY is a NASA-operated facility that was constructed in the early 1960s to support space flight efforts at KSC. The facility includes an approximately 3,200-foot section of railroad track with three railroad sidings, a former asphalt plant area (constructed in 1993), and the Wilson's Support Area, which is located approximately 1,600 feet to the northeast. Hammock Trail, a hiking trail accessible to the public, crosses the extreme western portion of the WRRY. The entire facility comprises an area of approximately 16 acres (Figure 1). Past and current operations at the WRRY include the temporary storage of railroad cars and the performance of various railroad-related maintenance activities. The Wilson's Support Area is used solely for the storage of maintenance vehicles. The former asphalt plant has been destroyed and the area is vacant.

Investigations conducted at the site include:

- 1992: During this time, investigations at WRRY were focused on potential contamination at the Wilson's Support Area from an underground storage tank (UST) used for the storage of diesel fuel. The UST was excavated and a Closure Assessment Report was submitted to the FDEP. Total Recoverable Petroleum Hydrocarbons (TRPH) were identified in the soil, and benzene and trans-1,2-dichloroethene (DCE) were identified in the groundwater at concentrations above cleanup target levels.

- 1993-1996: Soil sampling events were conducted in the vicinity of the former asphalt plant and numerous debris piles located across the site. PAHs, TRPH, and metals were identified above cleanup target levels. Samples collected from excavated wooden railroad ties revealed PAHs above regulatory criteria.

- 1997-1998: SWMU Site Assessment activities were conducted to evaluate impacts to site soil, groundwater, sediment, and surface water. Samples were collected and PAHs, Oil & Grease, and metals were identified in site media above regulatory criteria. Locations of Concern (LOCs) were also identified for further investigation.

- 1998: RCRA Confirmation Sampling was conducted of site media, and PAHs and metals were identified in soil and sediment samples above regulatory criteria. Metals were identified above cleanup target levels in one intermediate-depth groundwater sample at WRRY and one shallow-depth groundwater sample at the Wilson's Support Area.

- 2001-2003: A RCRA Facility Investigation was conducted. Samples of soil, sediment, surface water, and groundwater were analyzed. Results of these analyses were used to evaluate potential risks to human health and ecological receptors. The Preliminary Risk Evaluation (PRE) for human health indicated that soil containing PAHs exceeded the FDEP target risk for future residents. The ecological risk assessment (ERA) indicated that no unacceptable risk exists at the site for ecological receptors.

SUMMARY OF SITE RISK

As part of the RFI activities, risk assessments were completed in accordance with KSC's Remediation Team Risk Assessment Decision Process Document (DPD). The ERA was performed in accordance with the eight-step process described in the EPA's "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments", dated 1997.

Chemicals of Concern (COCs) identified for human health during the RFI included PAHs in soil/dry sediment (swale soil). Metals in groundwater samples were detected at concentrations within minimum and maximum ranges for KSC background concentrations. No COCs were identified at the Wilson's Support Area or the former location of the asphalt plant. For a complete list of COCs in soil/dry sediment (swale soil) see Table 1.

The human health risk assessment determined excess lifetime cancer risk for a hypothetical future resident to be no greater than 6 in a million, which is within EPA's acceptable range of 1 in a million to 1 in 10,000 but exceeds FDEP's acceptable risk goal of 1 in a million. The non-cancer

hazard index (HI) for the future hypothetical resident was 0.94, which is below the EPA and FDEP acceptable threshold of 1.0. The main contaminant contributing to the cancer risk was benzo(a)pyrene. No unacceptable risk is posed by the COCs to the current and future maintenance worker.

The ERA did not identify any unacceptable ecological risks.

WHAT ARE THE REMEDY OBJECTIVES AND LEVELS?

The remedial action objective (RAO) is to protect humans from exposure to soil/dry sediment (swale soil) contaminants that exceed FDEP/EPA residential-use cleanup target levels by limiting access only to industrial workers. Table 1 lists the COCs present in soil/dry sediment (swale soil) at WRRY. Cleanup target levels are shown for residential and industrial scenarios.

Table 1

Site-Related Chemicals of Concern (COCs)	Range of Detections (mg/kg)[2]	Residential SCTL[1]	Industrial SCTL[1]
Benzo(a)anthracene	0.361 – 4.8	1.4	5.0
Benzo(a)pyrene	0.0199 – 0.364	0.1	0.5
Dibenzo(a,h)anthracene	0.156 – 0.88	0.1	0.5

[1] Cleanup levels are SCTLs from Florida Administrative Code 62-777
[2] Includes dry sediment (swale soil)

REMEDIAL ALTERNATIVES FOR THE WRRY SITE

Because of the low levels of soil/dry sediment (swale soil) contamination present at WRRY, only one remedy was considered for WRRY.

Land Use Controls:
Institutional controls will be implemented for site soil/dry sediment (swale soil). The institutional controls will maintain the site as a railroad yard and will limit access to site soil/dry sediment (swale soil) by individuals other than industrial workers. NASA, EPA and FDEP have entered into a Memorandum of Agreement (MOA), which outlines how institutional controls will be managed at NASA.[2] The MOA requires periodic inspections, condition certification, and agency notification. The area of the site that will be under institutional control is shown on Figure 1.

EVALUATION OF REMEDY

The selected remedy was evaluated to determine if it will comply with EPA's four threshold criteria for corrective measures. The four threshold criteria for corrective measures are:

- overall protection of human health and the environment;
- attain media cleanup standards;
- control the sources of releases; and
- comply with standards for management of wastes

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.

Land Use Controls meet each of the threshold criteria and were determined by the KSC Remediation Team to be the best overall approach.

WHAT IMPACTS WOULD THE REMEDY HAVE ON THE LOCAL COMMUNITY?

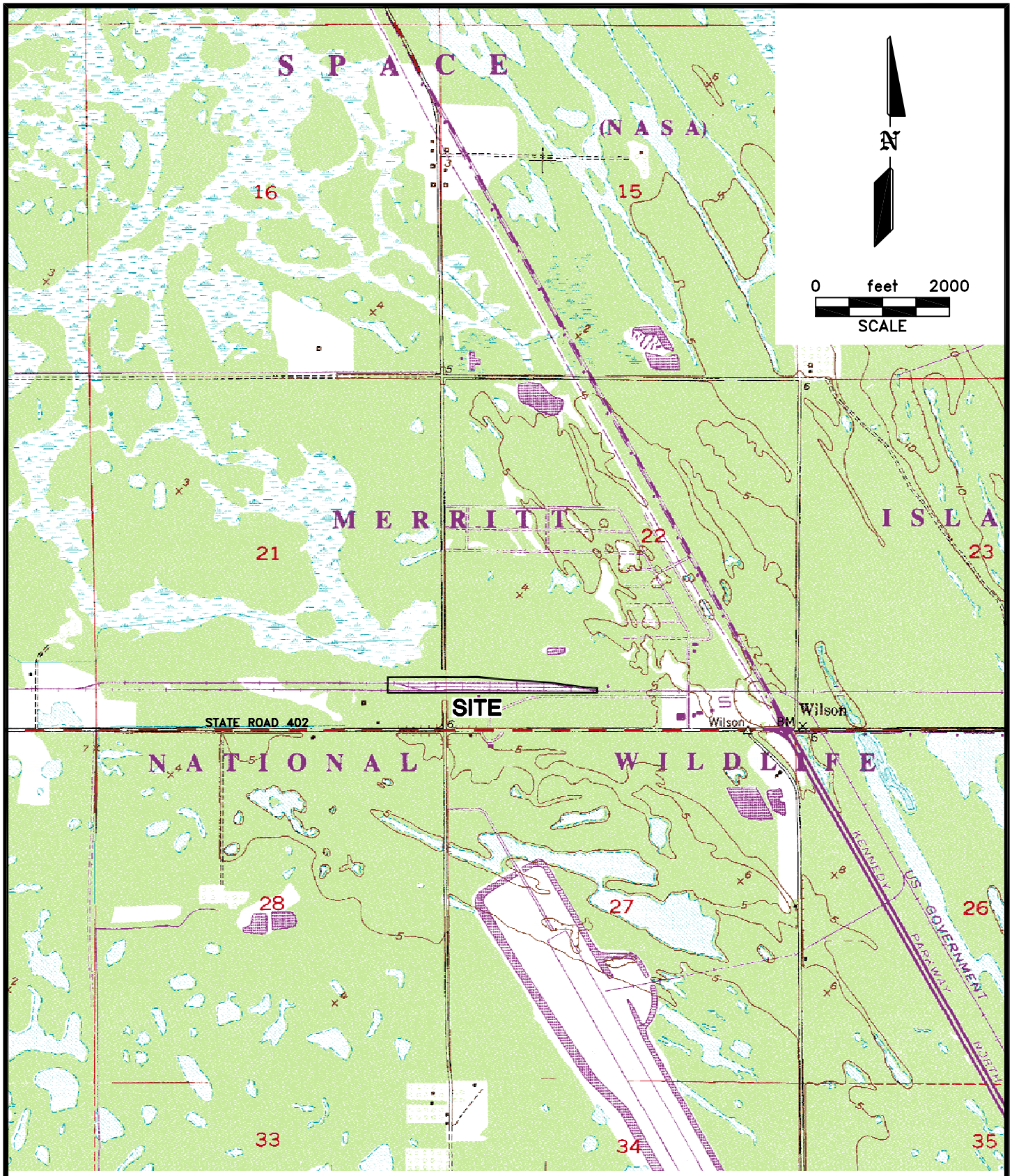
There would be no impacts to the local community because administrative actions to limit access to the site are consistent with current operating procedures.

WHY DOES THE KSC REMEDIATION TEAM RECOMMEND THIS REMEDY?

The team recommends the proposed remedy because institutional controls are an effective way to prevent exposure to contaminants. The proposed remedy also meets the four general standards for corrective measures and was determined to be the best overall approach.

NEXT STEPS

The KSC Remediation Team will review all comments on this SB to determine if the proposed remedy needs modification prior to implementation and prior to incorporating the proposed remedy into KSC's HSWA permit. If the proposed remedy is determined to be appropriate for implementation, then a Land Use Control Implementation Plan will be developed to incorporate the institutional controls at this site.



SOURCE: 7.5 MINUTE SERIES USGS QUADRANGLE MAP, WILSON, FLORIDA, DATED 1979.

SURVEY COORDINATES ARE IN STATE PLANE COORDINATE SYSTEM NAD 1983 METERS, FLORIDA EAST.

SECTIONS: 21 AND 22 TOWNSHIP: 21 S RANGE: 36 E

FIGURE 1
WILSON'S RAILROAD YARD
SOIL USE CONTROL AREA
SWMU NO. 71