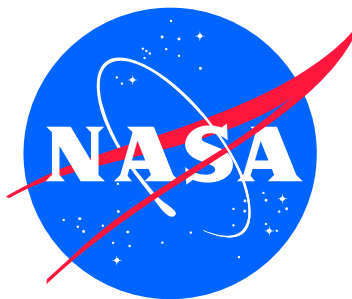


*(FINAL)*  
**ENVIRONMENTAL ASSESSMENT  
FOR  
SOURCE BOARD FACILITY ADDITION**



**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
LYNDON B. JOHNSON SPACE CENTER**



**August 2007**

**CENTER OPERATIONS SUPPORT SERVICE CONTRACTOR  
CSC-APPLIED TECHNOLOGY DIVISION  
LYNX, LTD.  
NASA/JOHNSON SPACE CENTER  
2101 NASA PARKWAY (JA 330)  
HOUSTON, TEXAS 77058**



**HOUSTON  
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**STATE OF TEXAS  
COUNTY OF HARRIS**

Personally appeared before the undersigned, a Notary Public within and for said County and State. Angela Holman, Representative for Kevin Barry, Publisher of the Clearlake/Bay Area Citizen, a newspaper of general circulation in the County of Harris, State of Texas. Who being duly sworn, states under oath that the report of Legal Notices, a true copy of which is hereto annexed was published in said newspapers in its issue(s) of the

16 day of July, 2007

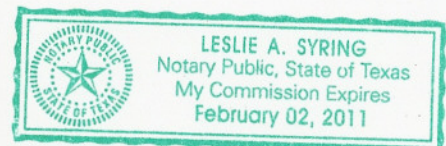
\_\_\_\_\_ day of \_\_\_\_\_, 2007

Angela Holman  
Publisher's Representative

Sworn to and subscribed before me this 31 day of July, 2007.

Leslie A. Syring  
Notary Public

My commission expires on 2/2/11





## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

**NOTICE:** National Environmental Policy Act; Proposed construction of Source Board Facility Addition (B-265)

**AGENCY:** National Aeronautics and Space Administration (NASA)

**ACTION:** Notice of finding of no significant impact

**SUMMARY:** Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321, et seq.), the Council on Environmental Quality (CEQ) Regulations for implementing the Procedural Provisions of NEPA (40CFR 1500-1508), and the NASA policy and procedures (14 CFR part 1216 subpart 1216.3), NASA announces the availability of the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) that address the environmental impacts expected to result from the proposed construction of an expansion to the existing Source Board Facility (B-265) at the Lyndon B. Johnson Space Center (JSC) in Houston, Texas. The expansion would add approximately 464 square meters (5,000 square feet) of space to the existing building located in the northeast portion of JSC.

**FOR FURTHER INFORMATION CONTACT:** Written requests for copies of the EA and FONSI, or requests for information, should be directed to Mr. David Hickens, Lead, Environmental Office, NASA, Johnson Space Center, Mailcode JE-1, 2101 NASA Parkway, Houston, Texas 77058, FAX (281) 483-3048, or by calling (281) 483-3120.

**SUPPLEMENTAL INFORMATION:** NASA has reviewed the EA prepared for the construction of the Source Board Facility Addition and has determined that it represents an accurate and adequate analysis of the scope and level of associated environmental impacts. The EA is hereby incorporated by reference in this final FONSI.

Three alternatives have been considered: the proposed action, a new dedicated facility, and the no-action alternative. A new building dedicated for the source board would have a greater impact on the environment than expansion of the existing building. The no-action alternative would not provide the necessary facilities to meet the current and future initiatives of the NASA Space Program.

The potential physical, biological, socioeconomic, and cultural impacts of the construction and operation of the Source Board Facility Addition have been assessed and evaluated. It appears that no significant impacts, related to any of these environmental issues, were identified. As a result of this assessment and evaluation, a Finding of No Significant Impact has been made.

Physical and biological resources considered included, but were not necessarily limited to, climate and earth movements, water, air, and noise resources, hazardous materials, transportation, floodplains, wetlands, wildlife, and vegetation. The Source Board Facility Addition would have no substantial impact on any of these resources.

Socioeconomics, including, but not necessarily limited to, land use, demographics, economic activity, and cultural resources were analyzed. The proposed Source Board Facility Addition would have no substantial impact on any of these resources.

**Cumulative Impacts:** The EA reviewed cumulative impacts that could result from the incremental impact proposed activities when added to other past, present, and reasonably foreseeable future actions. No other actions have been identified within the area of the proposed site for the Source Board Facility Addition or its area of influence that would contribute to cumulative impacts.

**Mitigation:** Standard construction practices would be implemented to reduce erosion potential during ground disturbing activities and compliance with NPDES permit requirements would ensure appropriate storm water runoff control.

On the basis of the EA, NASA has determined that the physical, biological, socioeconomic, and cultural impacts associated with the construction of the Source Board Facility Addition would not individually or cumulatively have a significant impact on the quality of the human environment. Therefore, NASA has determined that an Environmental Impact Statement need not be prepared. NASA will take no final action prior to the expiration of the 30-day comment period.

**Date:** Comments in response to this notice should be addressed to Mr. David Hickens and must be received in writing or via facsimile by August 26, 2007.

The EA which supports this draft FONSI may be reviewed at:

(a) NASA, Johnson Space Center, Bldg. 111, Industry Assistant Office, 2101 NASA Parkway, Houston, Texas 77058, between the hours of 7:30 a.m. and 4:00 p.m.

(b) NASA Headquarters, Library, Room 1J20, 300 E. Street SW, Washington D.C. 20546.

(c) Clear Lake City-County Freeman Branch Library, 16616 Diana Lane, Houston, Texas, 77062.

Michael L. Coats, Director

Johnson Space Center

36188 July 26, 2007

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The potential physical, biological, socioeconomic, and cultural impacts of the construction and operation of the Source Board Facility Addition have been assessed and evaluated. It appears that no significant impacts, related to any of these environmental issues, were identified. As a result of this assessment and evaluation, a Finding of No Significant Impact has been made.

Physical and biological resources considered included, but were not necessarily limited to, climate and earth movements, water, air, and noise resources, hazardous materials, transportation, floodplains, wetlands, wildlife, and vegetation. The Source Board Facility Addition would have no substantial impact on any of these resources.

Socioeconomics, including, but not necessarily limited to, land use, demographics, economic activity, and cultural resources were analyzed. The proposed Source Board Facility Addition would have no substantial impact on any of these resources.

**Cumulative Impacts:** The EA reviewed cumulative impacts that could result from the incremental impact proposed activities when added to other past, present, and reasonably foreseeable future actions. No other actions have been identified within the area of the proposed site for the Source Board Facility Addition or its area of influence that would contribute to cumulative impacts.

**Mitigation:** Standard construction practices would be implemented to reduce erosion potential during ground disturbing activities and compliance with NPDES permit requirements would ensure appropriate storm water runoff control.

On the basis of the EA, NASA has determined that the physical, biological, socioeconomic, and cultural impacts associated with the construction of the Source Board Facility Addition would not individually or cumulatively have a significant impact on the quality of the human environment. Therefore, NASA has determined that an Environmental Impact Statement need not be prepared. NASA will take no final action prior to the expiration of the 30-day comment period.

**Date:** Comments in response to this notice should be addressed to Mr. David Hickens and must be received in writing or via facsimile by August 26, 2007.

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- (c) Clear Lake City-County Freeman Branch Library, 16616 Diana Lane, Houston, Texas, 77062.

Michael L. Coats, Director  
Johnson Space Center

## **EXECUTIVE SUMMARY**

### **Type of report**

This report is an Environmental Assessment (EA) Report.

### **Name of proposed action**

The name of the proposed action is construction of a Source Board Facility Addition (SBFA), Lyndon B. Johnson Space Center (JSC), Houston, Texas.

### **Description of proposed action**

The proposed action discussed in this document is the construction of a permanent SBFA to be used for source board evaluation. The proposed addition is located in the northeast corner of JSC and would add approximately 464 square meters (5,000 square feet), to the existing building (B-265). This document provides an environmental assessment of the proposed action.

### **Description of alternative action**

The alternative action discussed in this document is the construction of a new building dedicated to the source board. The new building would be approximately 1,255 square meters (13,512 square feet) and would be located north of Building 269. This document also provides an environmental assessment of this alternative action.

### **Description of no-action alternative**

Alternatives that were considered include the proposed action, construction of a new dedicated building, and the no-action alternative. The no-action alternative would result in insufficient offices for source board evaluation and would not provide the necessary facilities to meet Constellation, and Mars and Beyond initiatives. This alternative would not meet the purpose and need for the proposed project. The no-action alternative would have several negative consequences for JSC. JSC has responsibilities to certify tours of Astronaut duty, to support development of the Constellation and other exploration ventures, to determine physiological consequences of extended-duration missions, and to develop measures to safeguard the crewmember's health throughout their duty. Lack

of space and a centralized location for the source board management team are critically limiting the implementation of JSC initiatives and no-action would result in JSC's inability to execute programs. JSC is the lead NASA agency for human space flight operations support.

### **Physical resources**

Construction of the Source Board Facility Addition (SBFA) on the proposed site at NASA's Lyndon B. Johnson Space Center (JSC) would impact approximately 0.05 hectares (0.12 acres) of urban land. Due to the location, the proposed addition would comply with hurricane construction codes and would be constructed to effectively drain excess water from the site.

Construction activities may cause short-term air emissions and dust. This can be mitigated with proper dust control methods. Construction noise may exceed normal ambient noise levels, but normal levels are expected after construction activity ceases. Traffic flow may be temporarily affected during the construction phase. No hazardous materials would be generated as a result of the construction or operation of the proposed facility and preventive measures would be incorporated to reduce potential spills from construction equipment.

Normal operations of the proposed facility will not generate hazardous materials. Operation of the facility will also not result in air emissions.

The topography on the site is relatively flat and slopes towards the east. There is a drainage ditch that runs along Space Center Boulevard located east of the proposed site. Some short-term erosion of soil and turbidity in drainage swales may occur during construction of the proposed facility; however, with appropriate storm water pollution prevention controls and practices, the impact would be minimal. JSC has a sedimentation and erosion control program in place that would be utilized during the construction of this project.

The site is not located within the 100-year flood plain.



## **Biological resources**

Previous development of the site has removed native vegetation. The footprint of the proposed building addition is currently dominated by grasses that are regularly mowed.

The open area adjacent to the east is utilized as the Astronaut Jogging Track. Mature hardwood trees are present in and around the jogging track. A drainage swale that receives runoff from the B-265 area passes through the Astronaut Jogging Track area. The established vegetation in the Astronaut Jogging Track provides limited protective cover and food resources for some wildlife species. No displacement of wildlife is expected as a result of the proposed action. No impacts to threatened and endangered species or designated critical habitat would result from the proposed action.

None of the wetlands located at JSC will be affected by the proposed action. Drainage ditches constructed in uplands are not considered waters of the United States and, thus, a permit from the USACE is not required for any re-alignment of drainage swales (33CFR333.4(a)(3) and CFR33 Part 330).

## **Socioeconomic and cultural resources**

Construction and operation of the proposed facility would not adversely impact minority or low-income populations. Some temporary construction jobs and potential learning opportunities would be created. National Historic Landmarks (NHLs) located at JSC would not be impacted.

## **Conclusions**

Short- and long-term effects on the quality of the human environment would be minimal if the proposed action were implemented. The only potential impacts to the physical and biological resources would be temporary and no impacts to socioeconomic and cultural resources would occur. No reasonable foreseeable cumulative effects associated with the construction of the proposed Source Board Facility Addition were identified. Construction of a new dedicated facility would have minor impacts to the environment. The no-action alternative would not provide the resources for meeting the project objectives.

ENVIRONMENTAL ASSESSMENT  
For  
EXPANSION OF SOURCE BOARD  
FACILITY ADDITION (B-265)  
LYNDON B. JOHNSON SPACE CENTER  
Houston, Texas

Lead Agency: NASA – Lyndon B. Johnson Space Center

Proposed Action: Source Board Facility Addition

For Further Information: Mr. David Hickens  
Chief, Environmental Services Office, JE-1  
2101 NASA Parkway  
Houston, TX 77058  
(281) 483-3120

Date: August 2007

**Abstract:**

The proposed action discussed in this document is an addition to an existing building (B-265), which will enable the Lyndon B. Johnson Space Center (JSC) to provide a permanent office for the source board management teams. The Source Boards are a key element in meeting NASA's long range human space flight goals. This document provides an environmental assessment of the proposed Source Board Facility Addition and reasonable alternatives.

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## Glossary: Abbreviations, Acronyms, and Terms

Alternative	Plan, option, choice (this EA analyzes three alternatives)
Baseline conditions	Existing condition of a resource issue
BDCF	Baseline Data Collection Facility
CEQ	Council on Environmental Quality
BMP	Best management practices
CEQ	Regulations that tell how to implement NEPA
CFR	Code of Federal Regulation
COH	City of Houston
Cumulative effects	Past, present, and reasonably foreseeable effects added together (regardless of who or what has caused, is causing, and might cause these effects)
Decision-maker	JSC Management, with review from NASA Headquarters Environmental Management Code JE
DOC	Discipline Operations Center
EA	Environmental Assessment
EIS	Environmental Impact Statement
FONSI	Finding of No Significant Impact (on the human environment, as defined in CEQ Regulations 1508.14)
FPPA	Farmland Protection Policy Act
HCFCDD	Harris County Flood Control District
Issue	An environmental resource about which someone has a concern; identified in NEPA, § 102 (2) (E) as an unresolved conflict
JSC	Lyndon B. Johnson Space Center, Houston, Texas

LEED	Leadership in Energy & Environmental Design green building rating system of U.S. Green Building Council
NASA	National Aeronautics and Space Administration
NDF	New Dedicated Facility alternative
NEPA	National Environmental Policy Act of 1969
NHL	National Historic Landmark
No-action	Continue present management, but do not implement the proposed project(s)
Objective	A subset of the project's goal
OSHA	Occupational Safety and Health Administration
Preferred Alternative	The alternative (option/plan) that the decision-maker plans to select near the end of the analysis process
PPE	Personal protection equipment
ROD	Record of Decision
SBFA	Source Board Facility Addition alternative
Selected Alternative	The alternative (option/plan) that the decision-maker selects to implement
TARL	Texas Archeological Research Laboratory
TCEQ	Texas Commission on Environmental Quality
THC	Texas Historical Commission
USACE	United States Army Corp of Engineers

## **1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION**

### **1.1 Introduction**

NASA proposes to construct a Source Board Facility space at the Lyndon B. Johnson Space Center (JSC) in Houston, Texas beginning in 2008.

The functional requirement of the Source Board Facility would be to provide a permanent office for the source board management team.

### **1.2 Need for Additional Source Board Facilities**

Source boards are utilized at NASA for procurement of contract services. Source boards develop requests for proposals and review submittals. Due to the sensitive nature of this work, the source boards require secure and dedicated offices and conference rooms. Previous source boards have utilized temporary quarters at other buildings across the site. In order to enhance effectiveness, the source boards require a permanent space to be dedicated for its activities. The source boards are a key element in meeting NASA's long range human space flight goals.

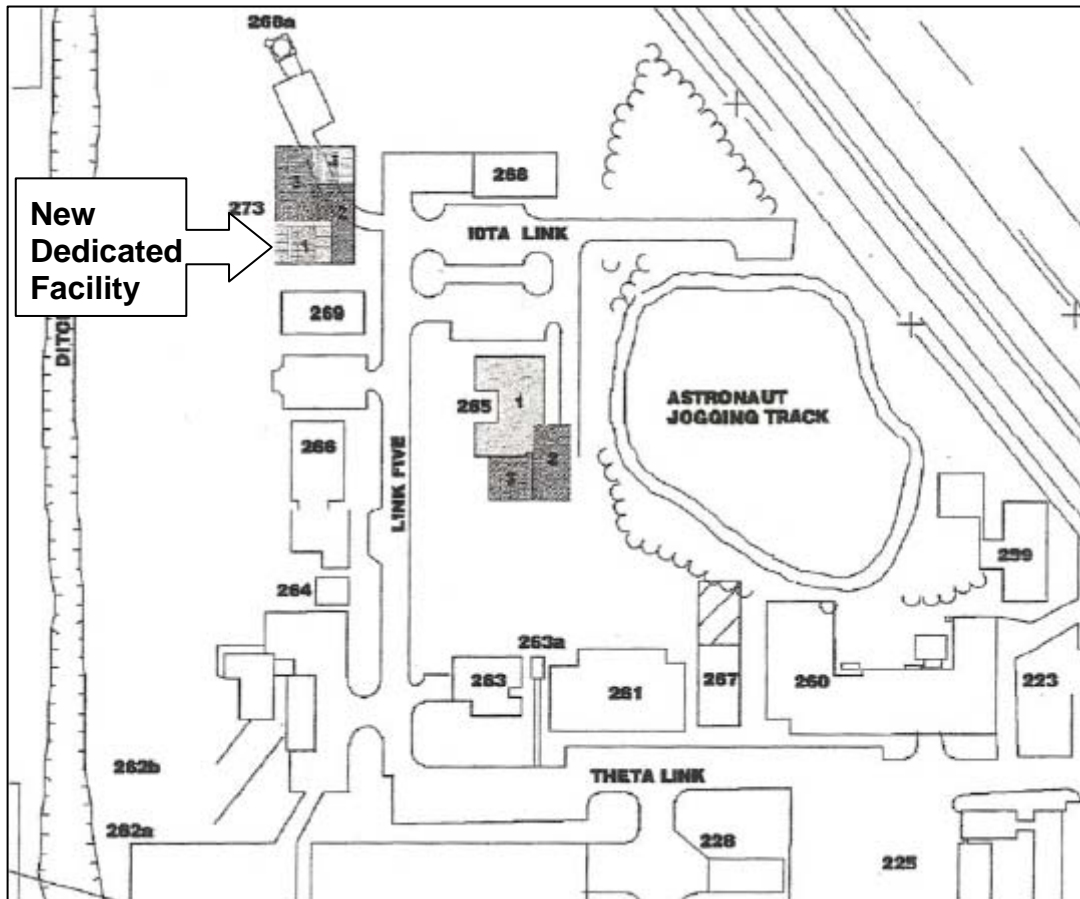
### **1.3 Decisions That Must Be Made**

JSC management must decide:

- Whether to construct a new Source Board Facility, to utilize and add-on to an existing building, or choose the no-action alternative.
- Determine whether the proposed action would or would not be a major Federal action significantly affecting the quality of the human environment. If JSC management determines that there will or may be a significant effect on the quality of the human environment, then an EIS (Environmental Impact Statement) must be prepared and a ROD (Record of Decision) signed for the Source Board Facility project to proceed.







**Figure 2.2 - Proposed New Dedicated Facility Location**

Disadvantages of this alternative were that new site utilities would need to be constructed, the driveway to existing building 268A would have to be relocated, and additional parking would have to be provided for facility occupants.

## **2.2 Re-use of Existing Building with Additions**

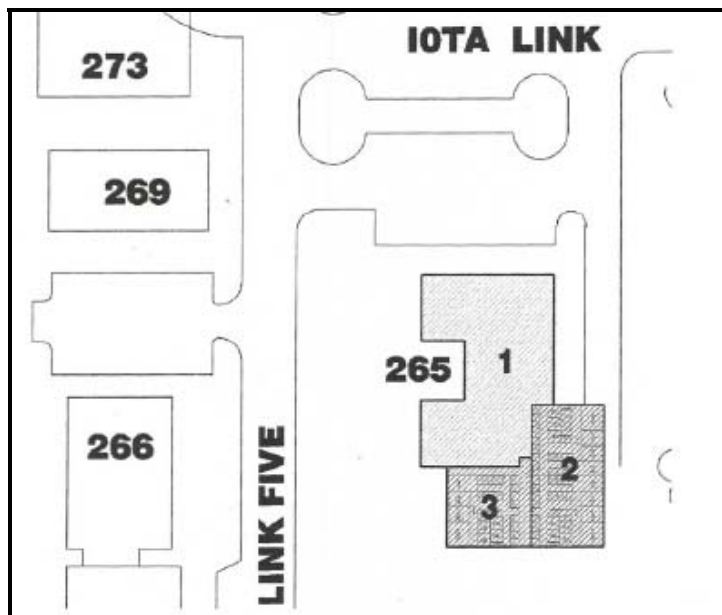
Existing Building 265 was brought to the attention of the design team. This building was abandoned and was slated for demolition in 2005. The building's foundation and shell were evaluated and determined to be sound. Space was available on the south side of the building for expansion.

This alternative was configured into a multi-phase project consisting of the following:

- 1) The original building (B-265) was abandoned in 2003 and scheduled for subsequent demolition.

- 2) In 2005 a small sub-grade bunker was demolished and the remaining structure was remodeled for use by the source board's permanent staff.
- 3) The current project phase is an addition of 464 square meters (5,000 square feet) of office space for two separate source boards.

The current phase consists of an addition on the south side of existing B-265 which is titled the Source Board Facility Addition (SBFA). The addition will be a one-story composite steel frame structure, approximately 464 square meters (5,000 square feet) in area. The structure is divided into two separate areas for two source boards. Each area would include an open area for cubicles, an office, a document storage room, conference rooms, and a mechanical room (Figure 2-3).



**Figure 2.3 - Re-use of B-265 with Additions  
as Source Board Facility**

Legend

- "1" indicates existing B-265 building
- "2" indicates proposed addition (east section)
- "3" indicates proposed addition (west section)

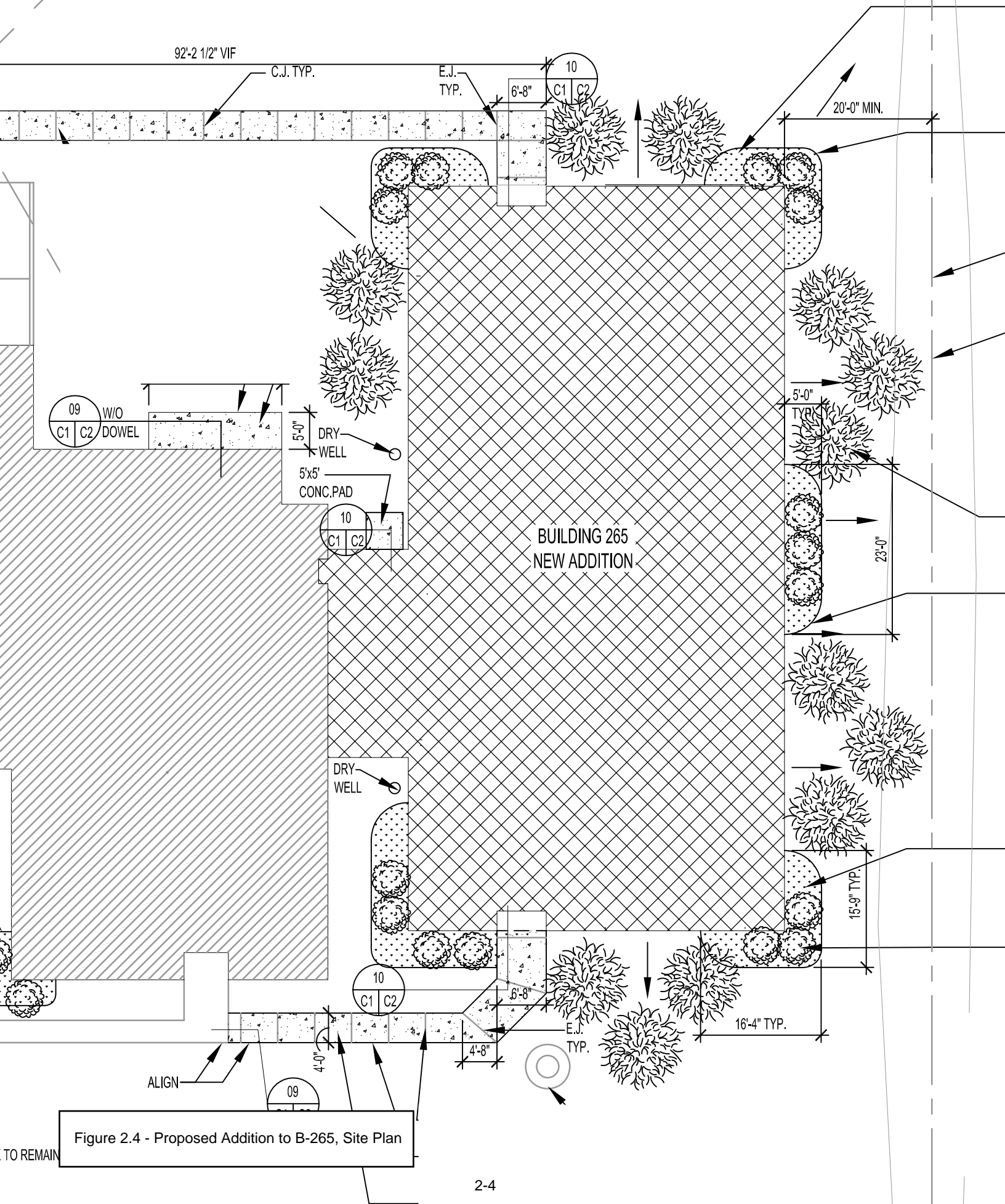
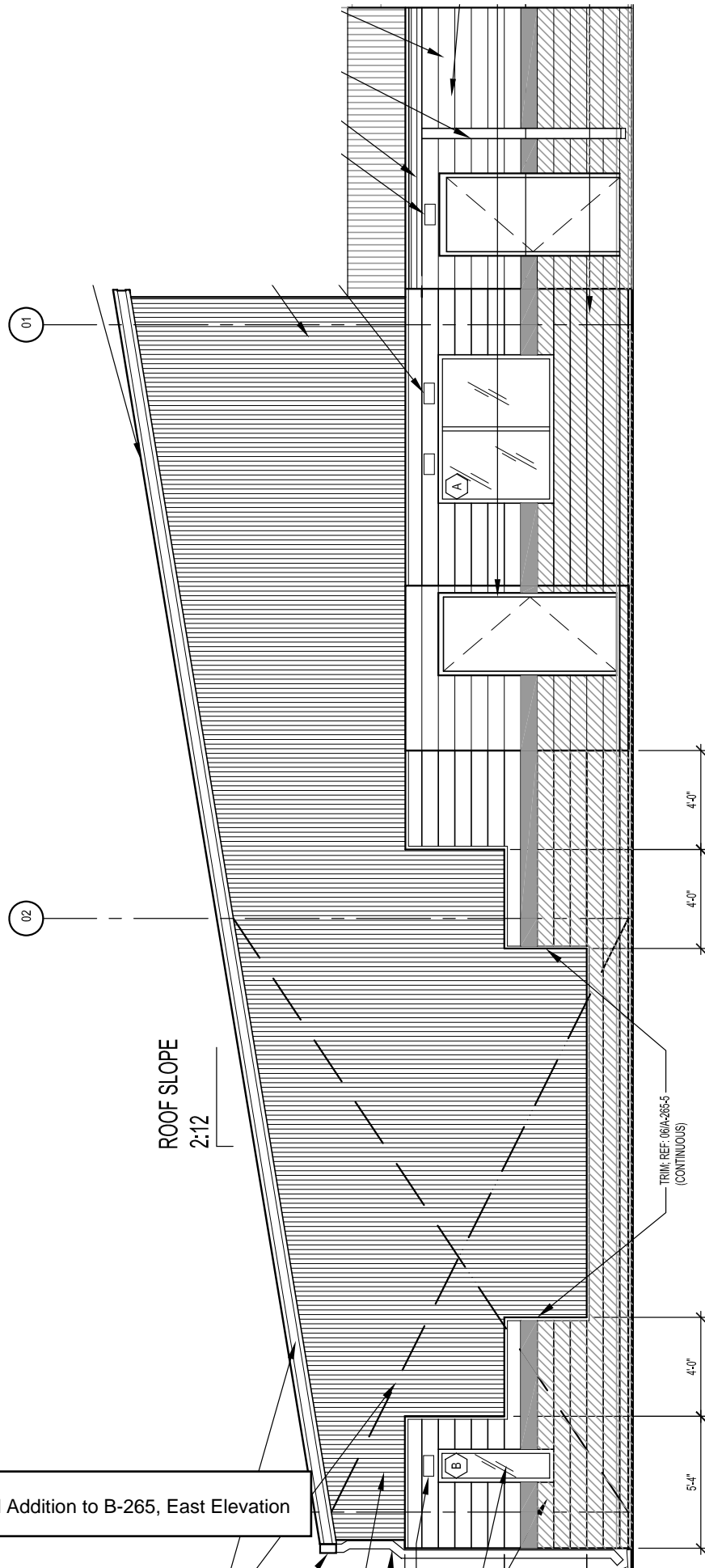


Figure 2.4 - Proposed Addition to B-265, Site Plan

Figure 2.5 - Proposed Addition to B-265, East Elevation



01 EAST ELEVATION

SCALE: 1/4" = 1'-0"

01  
A1 A2

The addition to B-265 is being designed utilizing standards of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) Green Building rating system. The project is projected to receive a Gold LEED rating, which is the second highest level achievable. A summary of the various categories of energy conservation and sustainable design elements to be used on the project are shown in Appendix B.

### **2.3 No-Action Alternative: Maintenance of site in the undeveloped condition**

The no-action alternative would have several consequences for JSC and NASA. JSC has responsibilities to certify tours of Astronaut duty, to support development of the Constellation Program, to support Space Station missions and other exploration ventures, to determine physiological consequences of extended duration missions, and to develop measures to safeguard the crewmembers health throughout their duty. Lack of space and a centralized location for source board activities are critically limiting the implementation of JSC initiatives and no-action would result in JSC's inability to properly execute programs.



## **3.0 AFFECTED ENVIRONMENT**

### **3.1 Introduction**

The affected environment succinctly describes the relevant resources of the areas that would affect or that would be affected by the alternatives if they were implemented. In conjunction with the description of the no-action alternative in Chapter 2 and with the predicted effects of the no-action alternative in Chapter 4, this chapter establishes the scientific baselines against which the decision-maker and the public can compare the effects of the action alternatives.

The two action alternatives of a new dedicated facility or an existing building with an addition would be located at JSC in Harris County, Texas. JSC is located 35.4 kilometers (22 miles) southeast of downtown Houston, near Clear Lake (Figure 2-3). Both proposed sites are located in the northeast portion of JSC, in the Building 200 area, on Link Five, latitude 29° 33' 47" north, longitude 95° 4' 52" west. Since the two proposed sites are in close proximity of 120 meters (400 feet), the following discussions will consider them in unison.

### **3.2 Climate and Earth Movements**

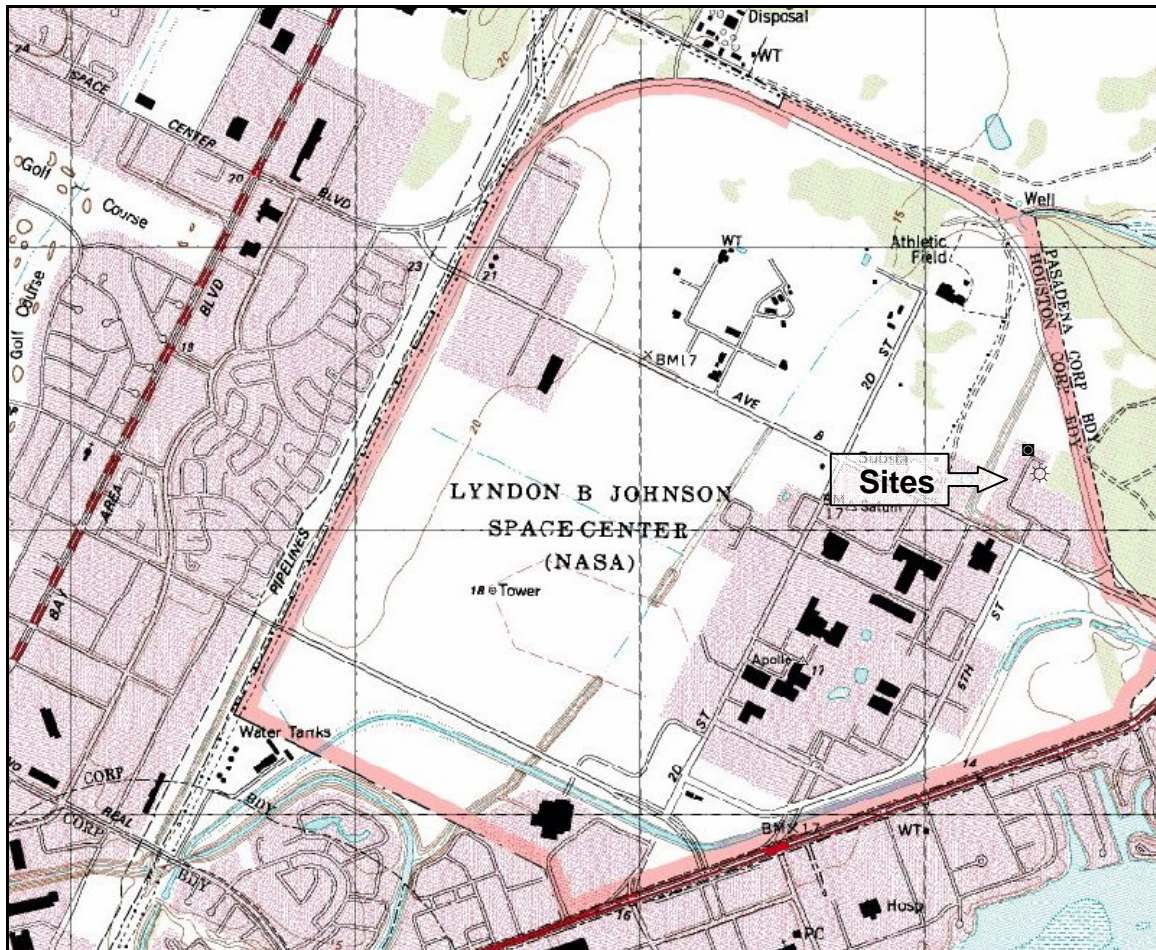
#### **3.2.1 Hurricanes and Tidal Surge**

From June to November, the Gulf Coast may be struck by hurricanes and tropical storms with sustained heavy rain and strong winds. Flooding may occur in coastal areas due to storm surge (extremely high tides caused by wind) and receding waters. A review of the U.S. Geological Survey (USGS) Topographic Map (League City Quadrangle) indicates the proposed sites located within JSC have an elevation of approximately 4.57 meters (15 feet) above mean sea level (USGS, 1995) (Figure 3-1). The proposed sites and the land surrounding the site are generally flat, with a gentle slope to the east. The northeastern portion of the site is topographically lower than the rest of the site. Areas of the proposed site are just outside the floodplain of Clear Lake.

#### **3.2.2 Rainfall**

Rainfall is evenly distributed throughout the year, with an annual average of about 121.9 centimeters (48 inches) (WeatherBase). Thunderstorms are common in summer months when the sun warms the air near the surface, causing it to rise and cool, resulting in

clouds and rain. Showers and thunderstorms also occur when weather fronts pass through the area.



**Figure 3.1 - Site Location Map**  
**Legend**

- New Dedicated Facility
- ☼ Source Board Facility Addition

### **3.3 Construction Impacts**

#### **3.3.1 Air Resources**

The U. S. Environmental Protection Agency established National Ambient Air Quality Standards (NAAQS) for ozone, lead, carbon monoxide, sulfur dioxide, nitrogen dioxide, and respirable particulate matter. The Texas Commission on Environmental Quality (TCEQ) has adopted the NAAQS standards presented in Table 3.3.1 for each of the six pollutants.

**Table 3.3.1 - National Ambient Air Quality Standards (NAAQS)**

Pollutant	Averaging Period	Primary NAAQS	Secondary NAAQS
Ozone	8-hour <sup>a</sup>	85 ppb	85 ppb
Carbon Monoxide	1-hour <sup>b</sup>	35.5 ppm	35.5 ppm
	8-hour <sup>b</sup>	9.5 ppm	9.5 ppm
Sulfur Dioxide	3-hour <sup>b</sup>	-	550 ppb
	24-hour <sup>b</sup>	145 ppb	-
	Annual <sup>c</sup>	35 ppb	-
Nitrogen Dioxide	Annual <sup>c</sup>	54 ppb	54 ppb
Respirable Particulate Matter (10 microns or less) (PM <sub>10</sub> )	24-hour <sup>d</sup>	155 µg/m <sup>3</sup>	155 µg/m <sup>3</sup>
	Annual <sup>e</sup>	51 µg/m <sup>3</sup>	51 µg/m <sup>3</sup>
Respirable Particulate Matter (2.5 microns or less) (PM <sub>2.5</sub> )	24-hour <sup>f</sup>	66 µg/m <sup>3</sup>	66 µg/m <sup>3</sup>
	Annual <sup>g</sup>	15.1 µg/m <sup>3</sup>	15.1 µg/m <sup>3</sup>
Lead	Quarter <sup>c</sup>	1.55 µg/m <sup>3</sup>	1.55 µg/m <sup>3</sup>

Notes: Source: TCEQ 2007; <http://www.tceq.state.tx.us/compliance/monitoring/air/monops/naaqs.html>

Primary NAAQS: the levels of air quality that the EPA judges necessary, with an adequate margin of safety, to protect the public health.

Secondary NAAQS: the levels of air quality that the EPA judges necessary to protect the public welfare from any known or anticipated adverse effects.

ppb = parts per billion, ppm = parts per million, µg/m<sup>3</sup> = micrograms per cubic meter

- a – The average of the annual fourth highest daily eight-hour maximum over a three-year period is not to be at or above this level.
- b – Not to be at or above this level more than once per calendar year.
- c – Not to be at or above this level.
- d – Not to be at or above this level on more than three days over three years with daily sampling.
- e – The three-year average of annual arithmetic mean concentrations at each monitor within an area is not to be at or above this level.
- f – The three year average of the annual 98th percentile for each population-oriented monitor within an area is not to be at or above this level.
- g – The three year average of annual arithmetic mean concentrations from single or multiple community-oriented monitors is not to be at or above this level.

The TCEQ classifies the air quality status of each county with respect to NAAQS as attainment, non-attainment, maintenance, or unclassified. Attainment indicates that the air quality is within the NAAQS. Non-attainment indicates that the air quality exceeds NAAQS for a specified pollutant or pollutants. Unclassified indicates insufficient data to

categorize a particular county. Harris County is classified as a "severe non-attainment" area for ozone. It is in attainment for all other NAAQS. Ozone is not emitted directly into the air. It is formed through chemical reactions between natural and man-made emissions of volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the presence of sunlight. Ozone pollution is the periodic increase in the concentration of ozone in the ambient air. When temperatures are high, sunshine is strong, and winds are weak, ozone can accumulate at ground level to unhealthful levels (TCEQ 2007).

### 3.3.2 Sound Environment

Most of the land immediately surrounding the proposed sites hosts buildings and parking lots. Adjacent to the south of the SBFA site are the Planetary and Earth Sciences Laboratory, Annex A (B-261) and the Health Physics Laboratory (B-263). Adjacent to the north is the Orbital Debris Tracking Facility (B-268) and a parking lot. Adjacent to the west are the Medical Data Support Facility (B-266), the Procurement Support Facility (B-269) and a parking lot. Adjacent to the east is a 1.6 hectare (four-acre) park-like area that contains the Astronaut Jogging Track and a drainage swale. A fence marking the perimeter of JSC and a public roadway (Space Center Boulevard) are located further to the east. There is also a multi-family residential building located on the east side of Space Center Boulevard. Noise levels are very low and do not appear to exceed normal background levels typically associated with such areas.

### 3.3.3 Spills and Hazardous Materials

The original building (B-265) for the SBFA included an underground waste storage tank for photographic development chemicals. The tank reportedly never received any wastes. The tank was removed in 2004 and sampling of adjacent soils indicated no residual contamination. A report documenting the removal of the tank, sampling results, and closure of the site was submitted to NASA in December 2004 (Closure Report - Unit B265 Photo-waste Holding Tank, Delivery Order No. 2565, Team DynCorp). The piping associated with the tank was located under the foundation of the building so it was abandoned in place in 2005. A report documenting the flushing, capping and sampling of the abandoned pipe was submitted to NASA in July 2005 (Photo-Waste Line Closure Report, Delivery Order 1494, LYNX Ltd. on behalf of CSC, Applied Technology Division).

Prior to the renovation of B-265, asbestos containing ceiling panels were removed from the building and the interior was HEPA vacuumed in April 2005. During the renovation, Transite panels containing asbestos were discovered on the building's exterior and they were removed in April 2006.

The application of herbicides and insecticides around the facility is presumed to have occurred as part of normal pest control procedures. Residual concentrations of these chemicals are not expected to be significant on the proposed site. There are no records of spills having occurred at this site.

#### 3.3.4 Transportation

The proposed site is located on Link Five which is an infrequently utilized, dead end street. Vehicles currently travel on this road when going to and from surrounding buildings. In general, there is little vehicular traffic in this area of JSC.

### **3.4 Water Resources**

#### 3.4.1 Surface Water and Drainage

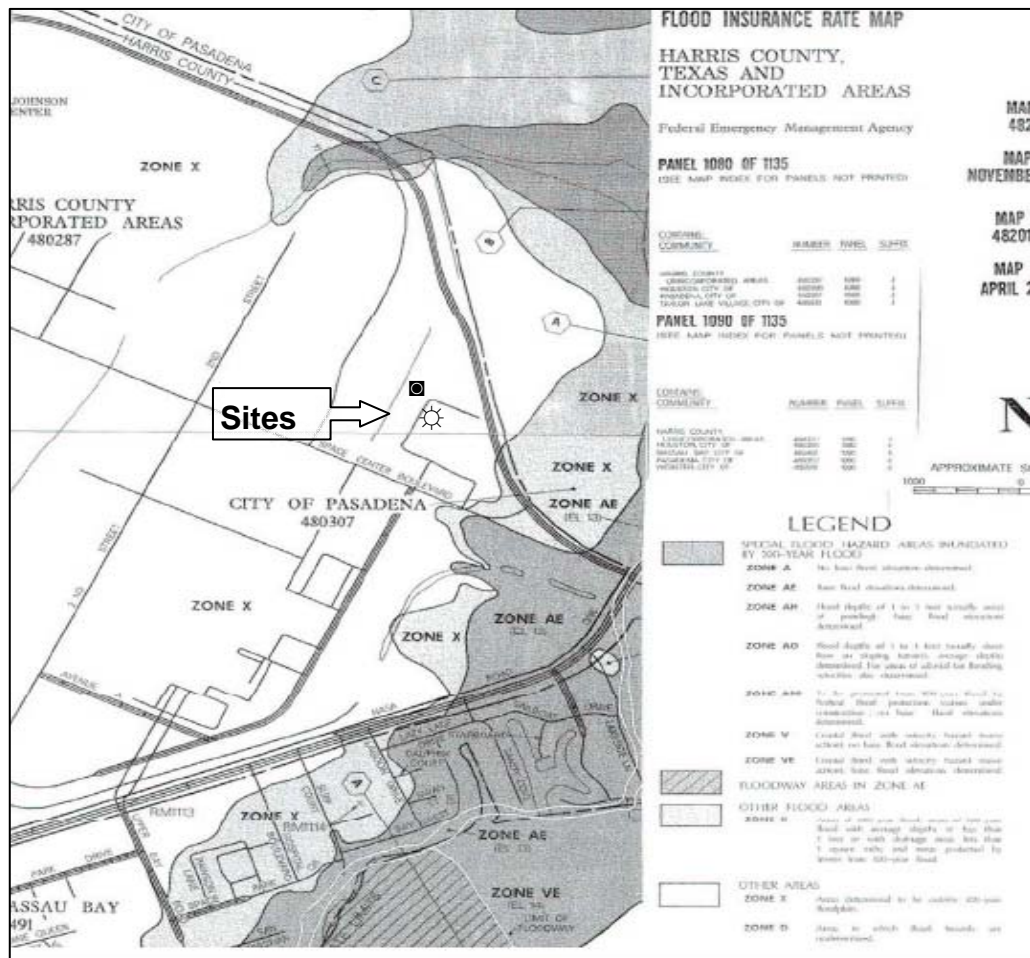
A storm water drainage ditch is located approximately 150 meters (500 feet) west of the proposed sites. Based on historical aerial photographs and USGS topographic maps, the drainage ditch was created in the late 1960's. The ditch discharges into Forest Lake which drains into Clear Lake. The gentle slope of the land toward the east indicates runoff would flow into the drainage swale east of the SBFA and eventually into Clear Lake.

#### 3.4.2 Floodplains

Floodplains are low areas adjoining inland and coastal waters. Those that have a one percent chance or greater for flooding in any given year are considered to be in a 100-year floodplain. The source board facilities, whether in a new building or as addition to an existing building, would not be "critical action" facilities. Activities in floodplains should be compatible with the natural propensity for flooding. Structures in the floodplain may further exacerbate flooding upstream or downstream.



The Federal Emergency Management Agency (FEMA) publishes flood maps for insurance ratings. A floodplain map of the site was obtained from FEMA and is included as Figure 3-2 (Map number 48201C1090 K, revised April 20, 2000). The proposed addition is not located within the 100-year floodplain.



**Figure 3.2 - Floodplain Map**

### Legend

- New Dedicated Facility
- ☼ Source Board Facility Addition

### 3.4.3 Groundwater

The Beaumont Formation, along with the underlying Montgomery, Bentley, and Willis Sand Formations, comprise the Chicot Aquifer, which extends approximately 210 meters (700 feet) below surface in the area of the proposed SBFA site. The Evangeline Aquifer

is approximately 671 meters (2,200 feet) thick and extends from the base of the Chicot Aquifer to approximately 884 meters (2,900 feet) below surface (Digital Models for Simulation of Groundwater Hydrology of the Chicot and Evangeline Aquifers Along the Gulf Coast of Texas, 1985, Texas Department of Water Resources). Shallow groundwater can typically be encountered at a depth of 3.05 to 6.10 meters (10 to 20 feet) below the surface at JSC. The Chicot and Evangeline Aquifers are the principal sources of groundwater for public water supply in the Houston area.

Harris County has restricted the pumping of groundwater due to the subsidence in the area. The main source of water supply for JSC and the surrounding vicinity is treated surface water. According to the Joint Groundwater Monitoring and Contamination Report prepared by the Texas Groundwater Protection Committee in 1998, JSC is not located in a groundwater protection or recharge zone.

### **3.5 Biological Resources**

#### **3.5.1 Vegetation**

The proposed sites are in a developed portion of JSC. The dominant vegetation consists of St. Augustine grass (*Stenotaphrum secundatum*), Bermuda grass (*Cynodon dactylon*), and Johnson grass (*Sorghum halapense*).

Development has affected plant communities at and surrounding the proposed site. The proposed site was used for agriculture prior to 1969. Many species of natural vegetation were removed during agricultural practices.

The Endangered Species List maintained by the U.S. Fish and Wildlife Service was reviewed. The only plant species listed for Harris County is the Texas prairie dawn-flower (*Hymenoxys texana*). Jill Seed, Senior Biologist of URS Corporation in Austin, Texas, performed a preliminary plant and wildlife survey of JSC in 2005. The Texas prairie dawn-flower was not observed during the survey.

#### **3.5.2 Wildlife**

The Upper Texas Gulf Coast is home to many species of birds, mammals, reptiles, and amphibians. However, agriculture and urban development have fragmented and altered

wildlife habitat. Open fields, administrative and operation buildings, roadways, a maintained park with a jogging path, and parking lots surround the proposed site.

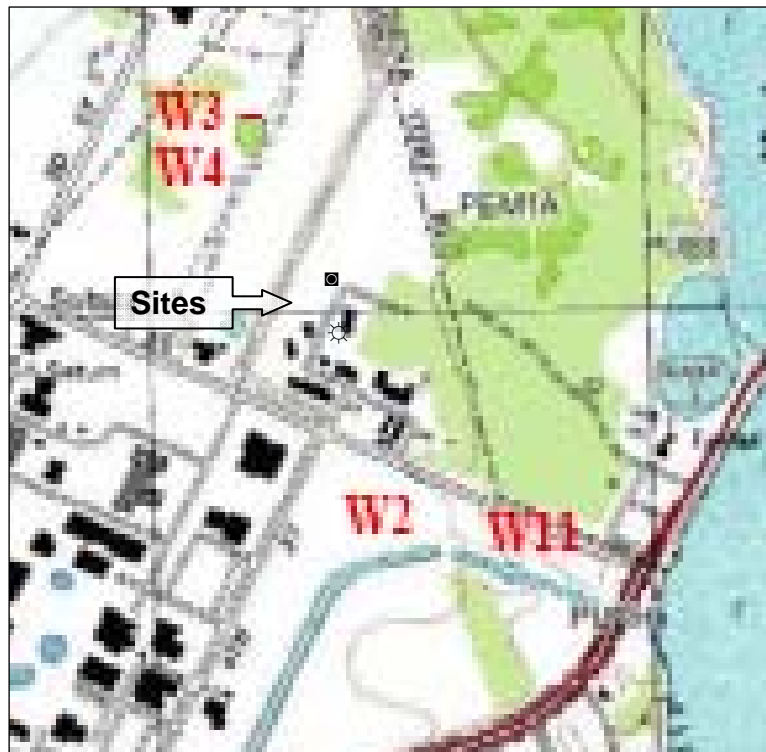
The open land near the proposed sites provide habitat for deer, small mammals, birds, reptiles, and amphibians that are adapted to suburban and rural environments. During previous field reconnaissance, species observed in nearby open areas included green heron, (*Butorides striatus*), great egret (*Casmerodius albus*), grackle (*Quiscalus sp.*), barn swallow (*Hirundo rustica*), mottled duck (*Anus fulvigula*), red-winged blackbird (*Agelaius phoeniceus*), Eastern meadowlark (*Sturnella magna*), loggerhead shrike (*Lanius ludovicianus*), purple martin (*Progne subis*), scissor-tailed flycatcher (*Tyrannus forficatus*), snowy egret (*Egretta thula*), doublecrested cormorant (*Phalacrocorax auritus*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), crawfish, and several snakes. Owl pellets consisting primarily of crawfish were found at open areas on JSC, indicating this may be a foraging area for some wildlife.

Birds such as mourning doves (*Zenaida macroura*), European starling (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), Northern mockingbird (*Mimus polyglottos*), Northern cardinal (*Cardinalis cardinalis*), and blue jay (*Cyanocitta cristata*) may also be found in nearby open areas. Small mammals such as raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), and rodents are found in nearby open areas. Whitetail deer (*Odocoileus virginianus*) that are frequently observed on JSC property are considered a captive population due to the high security fencing that surrounds the site. Due to overpopulation concerns, Texas A&M University is conducting a population control program for the Whitetail deer herd at JSC.

The Endangered Species List maintained by the U.S. Fish and Wildlife Service was reviewed. The only wildlife species listed for Harris County is the bald eagle (*Haliaeetus leucocephalus*) which is proposed to be delisted on August 8, 2007. No nesting pairs of bald eagles have been observed at JSC.

### 3.5.3 Wetlands

The U.S. Army Corps of Engineers (UAACE) is responsible for administering and enforcing Section 404 of the Clean Water Act. Wetlands are defined in Title 33, Code of Federal Regulations (CFR) Part 328, Section 3(b), as those areas that are inundated or saturated by surface of groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. A jurisdictional wetland, as defined by the 1987 Corps of Engineers Wetland Delineation Manual, must meet three mandatory criteria: hydric soils, wetland hydrology, and hydrophytic vegetation.



**Figure 3.3 - Wetlands Map**

#### Legend

- ☐ New Dedicated Facility
- ☼ Source Board Facility Addition

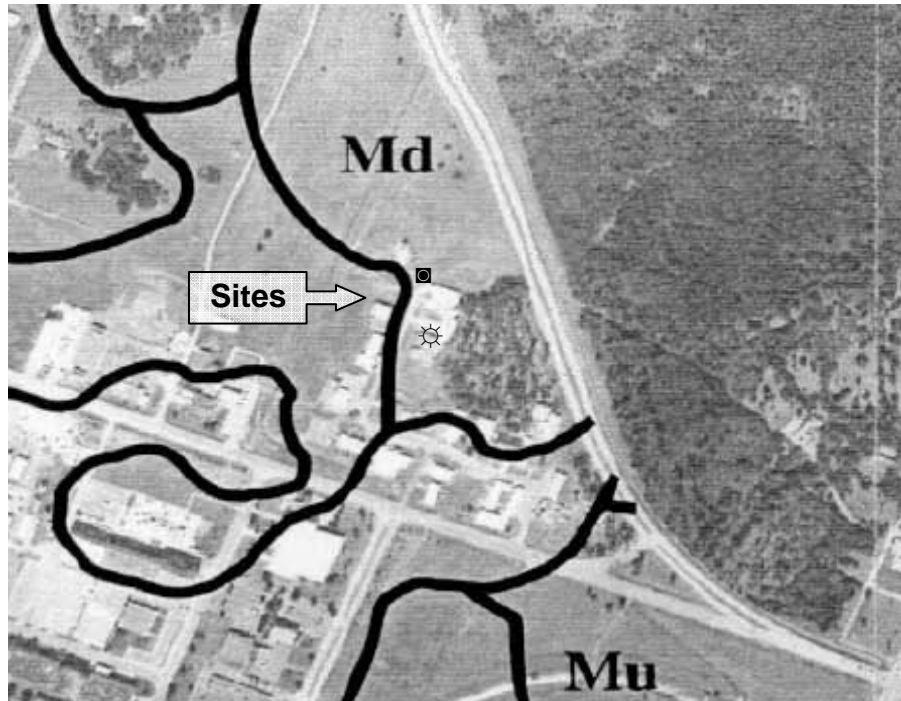
The U.S. Department of the Interior, Fish and Wildlife Service has published National Wetland Inventory maps that identify wetland areas. No wetlands were shown on or directly adjacent to the proposed site, although wetlands are mapped on other portions of the JSC property (Figure 3-3). During site reconnaissance, no wetland indicators were observed. The drainage swale just east of the proposed site for the SBFA does support hydrophytic vegetation, but it is a manmade structure created from uplands, and it is not considered a water of the United States.

#### 3.5.4 Soils

Soils at the proposed sites are mapped as Midland silty clay loam complex (Figure 3-4). The Midland silty clay loam soil complex consists primarily of open prairie, but occasionally is covered with hardwood trees, sloping an average of 0.5%. Midland soils are firm, dark grayish brown, silty clay loam, and strongly acidic within the top 18 centimeters (7 inches). As depth progresses, soils become firmer, less acidic, and more clayey.

The nearby Midland-Urban complex includes soils that have been altered or covered by buildings and structure, which would appear to be more representative of the B-265 area. Fill material often covers natural soils (Soil Conservation Service, Harris County Soil Survey, 1976).

Unless modified, these soils are poor building foundations due to their potential to shrink when dry and swell when wet. Soils on the proposed site are not subject to Farmland Protection Policy Act.



**Figure 3.4 - Soils Map**

Legend

- ☐ New Dedicated Facility
- ☼ Source Board Facility Addition
- Md** Midland Soil Complex
- Mu** Midland/Urban Soil Complex

### **3.6 Socioeconomic and Cultural Resources**

#### **3.6.1 Demographics and Economic Activity**

The proposed sites are located in the Clear Lake area, which lies within Houston city limits. The Clear Lake area includes the cities of Friendswood, Kemah, League City, Nassau Bay, Seabrook, Webster, Clear Lake Shores, El Lago, Taylor Lake Village, and parts of Houston and Pasadena. The 2000 population estimate for the Clear Lake area is about 200,000 persons (Clear Lake Economic Development Foundation 2000).

**Table 3.6.1 Demographics of Census Tract 373.03 (including all blocks)**

<b>Census Tract 373.03</b>		
Persons:	White	4,506
	Black	328
	Native American	14
	Asian	338
	Hispanic	801
	Other	13
Total Persons:		6,000
Persons of Voting Age:	White	4,218
	Black	247
	Native American	8
	Asian	251
	Hispanic	560
	Other	184
Total Persons of Voting Age:		5,468*
Persons in Work Force:		4,268
Average Household Income		\$34,272
Housing Units:	Occupied	3,182
	Vacant	462
Total Housing Units:		3,644

Source: U.S. Department of Commerce, 1990

\*The actual number of persons of voting age is 4,908. Due to data collection methods, age categories for Hispanic origin by race were not provided. Consequently, Hispanic voters were tallied among the other races.

The proposed sites are located within one census tract composed of five block groups, mapped and designated by the U.S. Department of Commerce, Bureau of the Census. The proposed site is located in the 1990 census tract 373.03, surrounding NASA Johnson Space Center, in Houston, Harris County, Texas. Table 3.6.1 lists the race, ethnicity, the number of persons of voting age, the number of persons in the workforce, the average household income, and the number of housing units and their occupancy status for all block groups in tract 373.03.

The aerospace industry, specialty chemical industry, tourism, and boating and recreation dominate the Clear Lake area economy. Additional area businesses include the service, wholesale, and retail sectors (Bay Area Houston Economic Partnership website).

### 3.6.2 Cultural Resources

Archeological site records on file with the Texas Archeological Research Laboratory (TARL) at the University of Texas at Austin were reviewed to determine the presence of recorded sites within or immediately adjacent to the project area. Based on a review of these records, no archeological sites have been recorded within the project limits. However, numerous sites in the immediate vicinity of Clear Lake are on record with the state files at TARL suggesting a favored location for habitation during the prehistoric period.

Two buildings at JSC house National Historic Landmarks, including the large vacuum chamber in building 32 and the old mission control room in building 30. These two facilities are approximately 0.8 kilometers (one-half mile) southwest of the proposed site.



## **4.0 ENVIRONMENTAL CONSEQUENCES**

### **4.1 Introduction**

*Environmental consequences* is the scientific and analytic basis for the summary comparison of effects. This chapter presents in detail and by resource the direct, indirect, and cumulative effects of all alternatives.

### **4.2 Climate and Earth Movements**

#### **4.2.1 Hurricanes and Tidal Surge**

##### **4.2.1.1 Effect of the Proposed Action**

The proposed SBFA would be constructed to comply with all required hurricane construction codes. JSC has an emergency plan outlining hurricane procedures that would be adopted and applied to the SBFA. If tidal surge or receding floodwaters were to reach the SBFA, possible structural damage could occur.

##### **4.2.1.2 Effect of New Dedicated Facility**

The new dedicated facility (NDF) would be constructed to comply with all required hurricane construction codes. JSC has an emergency plan outlining hurricane procedures that would be adopted and applied to the facility. If tidal surge or receding floodwaters were to reach the new dedicated facility, possible structural damage could occur.

##### **4.2.1.3 Effect of the No-action Alternative**

Hurricane and tidal surge damage would be minimal on the site as there would be no new structures to damage. Some damage to the land surface including deposition of foreign materials may result if these climatic events were to occur.

#### 4.2.2 Rainfall

##### 4.2.2.1 Effect of the Proposed Action

Heavy rain events would not result in significantly worse flooding around the SBFA due to the relatively small footprint of the building. Current development in the area may cause flooding problems during heavy rains; however, that has been largely mitigated by construction of the drainage swale to the east of B-265. The SBFA would be constructed to effectively drain any excess water in a manner not to cause additional flooding upstream or downstream of the proposed site or to other JSC property.

##### 4.2.2.2 Effect of New Dedicated Facility

Heavy rain events could result in flooding around the NDF if topography was altered without adequate drainage. However, the NDF would be constructed to effectively drain any excess water in a manner not to cause additional flooding upstream or downstream of the proposed site or to other JSC property.

##### 4.2.2.3 Effect of the No-action Alternative

Heavy rains should not cause flooding upstream or downstream of the undeveloped site outside of existing conditions. Flow levels would not be changed from the current conditions unless modifications occurred elsewhere on JSC property.

#### **4.3 Construction and Operational Impacts**

##### 4.3.1 Air Resources

##### 4.3.1.1 Effect of the Proposed Action

The construction of the proposed facility would produce some air emissions. An increase of 22,700 Kg (25 tons) per year for VOCs or NO<sub>x</sub>, resulting from the proposed project, could trigger general conformity analysis. Emissions from the SBFA are not expected to reach this significance level; consequently, a general conformity analysis should not be required.

Heavy machinery and trucks emit carbon monoxide, particulate matter, nitrogen oxides, hydrocarbons, and sulfur oxides. Steps will be taken to mitigate emissions and control

any dust created during construction. Air quality effects from construction equipment and associated vehicular traffic would be localized and temporary. These actions should pose no substantial impact upon air quality.

The proposed facility will consume a minor amount of additional electric power since it is a relatively small addition to an existing building. The proposed facility would primarily utilize equipment already in operation at JSC. Additional equipment may be necessary and vehicle use would occur, but normal operation and use of the proposed facility indicate there would be no effect on ambient air quality.

#### 4.3.1.2 Effect of New Dedicated Facility

The construction of the proposed facility would produce some air emissions. An increase of 22,700 Kg (25 tons) per year for VOCs or NOx, resulting from the proposed project, could trigger general conformity analysis. Emissions from the NDF are not expected to reach this significance level; consequently, a general conformity analysis should not be required.

Heavy machinery and trucks emit carbon monoxide, particulate matter, nitrogen oxides, hydrocarbons, and sulfur oxides. Steps would be taken to mitigate emissions and control any dust created during construction. Air quality effects from construction equipment and associated vehicular traffic would be localized and temporary. These actions should pose no substantial impact upon air quality standards.

The proposed facility would consume a moderate amount of electric power. The proposed facility would require additional equipment consisting primarily of HVAC units. Additional equipment may be necessary and vehicle use would occur, but normal operation and use of the proposed facility indicate there would be an insignificant effect on ambient air quality.

#### 4.3.1.3 Effect of the No-action Alternative

There would be no changes in air quality if the no-action alternative were implemented. Construction equipment would not be necessary and general maintenance activities would continue.

#### 4.3.2 Sound Environment

##### 4.3.2.1 Effect of the Proposed Action

Operation of heavy machinery and increased vehicular traffic would temporarily increase noise levels during the construction of the proposed facility on-site and to surrounding buildings. The temporary noise increase would not be likely to pose a threat to occupants, but the potential for hearing loss in construction workers at the site would exist during most construction phases.

Best management practices (BMP) shall be incorporated to minimize the impact of construction related noise to surrounding areas. JSC would require OSHA safety standards be followed including wearing personal protection equipment (PPE) at all times during the construction of the SBFA.

##### 4.3.2.2 Effect of New Dedicated Facility

Operation of heavy machinery and increased vehicular traffic would temporarily increase noise levels during the construction of the proposed facility on-site and to surrounding buildings. The temporary noise increase would not be likely to pose a threat to occupants, but the potential for hearing loss in construction workers at the site would exist during most construction phases.

Best management practices (BMP) shall be incorporated to minimize the impact of construction related noise to surrounding areas. JSC would require OSHA safety standards be followed including wearing personal protection equipment (PPE) at all times during the construction of the NDF.

##### 4.3.2.3 Effect of the No-action Alternative

The sound environment would remain unaltered if the no-action alternative were implemented.

### 4.3.3 Spills and Hazardous Materials

#### 4.3.3.1 Effect of the Proposed Action

Heavy construction equipment brought from outside JSC has resulted in spills of hydraulic fluid and other petrochemicals at other construction sites. JSC would take precautions at the SBFA site to prevent potential spills by requiring construction equipment be adequately maintained and serviced.

Based on the preliminary data provided, the generation of hazardous materials is not anticipated as a result of construction. Normal operations of the proposed facility should not generate hazardous materials or wastes. No effects from hazardous materials, when managed in compliance with environmental regulations, are anticipated.

#### 4.3.3.2 Effect of New Dedicated Facility

Heavy construction equipment brought from outside JSC has resulted in spills of hydraulic fluid and other petrochemicals at other construction sites. JSC would take precautions at the SBFA site to prevent potential spills by requiring construction equipment be adequately maintained and serviced.

Based on the preliminary data provided, the generation of hazardous materials is not anticipated as a result of construction. Normal operations of the proposed facility should not generate hazardous materials or wastes. No effects from hazardous materials, when managed in compliance with environmental regulations, are anticipated.

#### 4.3.3.3 Effect of the No-action Alternative

Existing conditions should remain unchanged if the no-action alternative were implemented.

### 4.3.4 Transportation

#### 4.3.4.1 Effect of the Proposed Action

There is sufficient parking for B-265 to accommodate the future occupants of the SBFA. No transportation impacts are expected at JSC. Some minor traffic congestion may occur during construction, but steps should be taken to ensure safe roadway conditions and access to all facilities. Traffic volume through the JSC Space Center Boulevard

entrance may increase, but the entrance already uses a traffic signal and alterations in traffic flow outside JSC are not anticipated. Long-term effects on transportation are not anticipated.

#### 4.3.4.2 Effect of the New Dedicated Facility

The NDF is located on a gravel road that serves B268a. This road would have to be relocated. Space for a separate parking area is not available. Building occupants would have to use parking provided for other nearby buildings which may not be sufficient.

No transportation impacts are expected at JSC. Some traffic congestion may occur during construction, but steps should be taken to ensure safe roadway conditions and access to all facilities. Traffic volume through the JSC Space Center Boulevard entrance may increase, but the entrance already uses a traffic signal and alterations in traffic flow outside JSC are not anticipated. Long-term effects on transportation are not anticipated.

#### 4.3.4.3 Effect of the No-action Alternative

Alterations in the traffic flow patterns are not anticipated with the no-action alternative. Any changes in traffic flow or volume would be a result of changes occurring elsewhere at JSC.

### **4.4 Water Resources**

#### 4.4.1 Surface Water and Drainage

##### 4.4.1.1 Effect of the Proposed Action

The Source Board Facility Addition will require little alteration of the existing grade so a minimal impact to surface water drainage patterns is expected. The proposed construction will disturb less than 2.02 hectares (5 acres) so preparation of a Notice of Intent for a Texas Pollution Discharge Elimination System permit would not be required.

There may be temporary erosion during construction causing sedimentation and turbid waters in drainage structures. Contractors should create and implement a stormwater pollution prevention plan in accordance with JSC and regulatory guidelines before construction begins. These sedimentation and erosion control procedures should be carried out for the duration of construction.

#### 4.4.1.2 Effect of New Dedicated Facility

The filling and reconstruction of the drainage structures may alter the storm water drainage and flow at the site. Alternate surface water drainage routes should be considered prior to construction. Adequate drainage, flow attenuation structures, and a detention area may be items of consideration for reducing non-point source discharges and additional flow associated construction of the NDF. Construction may disturb more than 2.02 hectares (5 acres), which would require the preparation of a Notice of Intent for a Texas Pollution Discharge Elimination System permit.

During construction there may be temporary erosion causing sedimentation and turbid waters within the drainage ditches along the road (Link Five). Contractors should create and implement a stormwater pollution prevention plan in accordance with JSC and regulatory guidelines before construction begins. These sedimentation and erosion control procedures should be carried out for the duration of construction.

#### 4.4.1.3 Effect of the No-action Alternative

Increases in surface drainage and non-point source discharges are not anticipated with the no-action alternative. The site would remain undeveloped with general maintenance continuing in its current manner. The no-action alternative should have no effect.

### 4.4.2 Floodplains

#### 4.4.2.1 Effect of the Proposed Action

The SBFA would not affect any Harris County Flood Control District (HCFCD) infrastructure; consequently, there would be no detention requirement. The design engineer would be responsible for incorporating a design mechanism that would adequately address the local hydraulic conditions due to increased runoff. NASA should provide information to the City of Houston (COH) from hydraulic studies and impact analysis to allow for determination of impacts; however, the COH does not evaluate the effects of development on the floodplain. Federal facilities not falling under the jurisdiction of the County or City must comply with requirements of Executive Order 11988, which cover development in Special Flood Hazard Areas. No portion of the

proposed facility falls within the 100-year floodplain so no measurable impacts to floodplain levels are anticipated.

#### 4.4.2.2 Effect of New Dedicated Facility

The NDF would not affect any Harris County Flood Control District (HCFCD) infrastructure; consequently, there would be no detention requirement. The design engineer would be responsible for incorporating a design mechanism that would adequately address the local hydraulic conditions due to increased runoff. NASA should provide information to the City of Houston (COH) from hydraulic studies and impact analysis to allow for determination of impacts; however, the COH does not evaluate the effects of development on the floodplain. Federal facilities not falling under the jurisdiction of the County or City must comply with requirements of Executive Order 11988, which cover development in Special Flood Hazard Areas. No portion of the proposed facility falls within the 100-year floodplain so no measurable impacts to floodplain levels are anticipated.

#### 4.4.2.3 Effect of the No-action Alternative

The no-action alternative would not alter the surface elevation of the designated floodplain.

### 4.4.3 Groundwater

#### 4.4.3.1 Effect of the Proposed Action

Groundwater contamination has been detected in the ESTA area which is over one-half mile west of the SBFA. Sampling of the monitoring well in the vicinity of the SBFA has indicated that the groundwater is not impacted in this area. Construction of the SBFA will include drilled piers to a depth of approximately 7.6 meters (25 feet) and drillers will likely encounter the shallow groundwater zone at a depth of 3 to 6 meters (10 to 20 feet) below ground surface. However, there is no expectation that construction workers would come in contact with contaminated groundwater. Potable water at the proposed site would be supplied by the Clear Lake City Water Authority, which draws its supply from surface water (D. Plaisance 2000).



#### 4.4.3.2 Effect of New Dedicated Facility

Groundwater contamination has been detected in the ESTA area which is over one-half mile west of the NDF. Sampling of the monitoring well in the vicinity of the NDF has indicated that the groundwater is not impacted in this area. Construction of the facility would include drilled piers to a depth of approximately 7.6 meters (25 feet) and drillers would likely encounter the shallow groundwater zone at a depth of 3 to 6 meters (10 to 20 feet) below ground surface. However, there is no expectation that construction workers would come in contact with contaminated groundwater. Potable water at the proposed site would be supplied by the Clear Lake City Water Authority, which draws its supply from surface water (D. Plaisance 2000).

#### 4.4.3.3 Effect of the No-action Alternative

No anticipated effects on the groundwater would occur if current maintenance activities continue. The existing groundwater wells at the site should still be sampled in order to monitor contaminant levels.

### **4.5 Biological Resources**

#### 4.5.1 Vegetation

##### 4.5.1.1 Effect of the Proposed Action

The proposed site is a developed area with maintained turf grass. The native vegetative community was altered many years ago. Planted native and non-native trees to the east of the SBFA would not be disturbed during construction. Because existing turf grass would be removed during construction of the proposed facility, some short-term erosion may occur.

##### 4.5.1.2 Effect of New Dedicated Facility

The proposed site consists of an undeveloped fallow field, dominated by grasses, and an existing gravel road. This area has been used as a fill deposit site for as many as 20 years; therefore, the native vegetative community was altered many years ago. Because the existing herbaceous and woody vegetation would be removed during construction of the proposed facility, some short-term erosion may occur.

#### 4.5.1.3 Effect of the No-action Alternative

The present vegetative community would persist in its early successional stages because maintenance mowing would continue with the no-action alternative.

### 4.5.2 Wildlife

#### 4.5.2.1 Effect of the Proposed Action

Since the site for the SBFA is already developed, the impact of the proposed improvements is very minor. There will be no measurable loss of habitat and displacement of wildlife is not anticipated. The SBFA includes minimal new landscaping so there will be little additional habitat that could be utilized by adaptive species.

#### 4.5.2.2 Effect of New Dedicated Facility

Proposed improvements to the site would not support habitat areas suitable for most wildlife; however, landscaped areas may provide small pockets of habitat for adaptive species. Substantial displacement of wildlife is not anticipated, although a minor amount of habitat would be lost. Remaining fields at or near the site would easily accommodate displaced wildlife.

#### 4.5.2.3 Effect of the No-action Alternative

Despite the absence of natural vegetation on the proposed sites, the existing vegetation does offer some protective cover and food resources for wildlife. Maintenance mowing would periodically remove this vegetation, which may have a negative impact for some species, but a positive impact for others.

### 4.5.3 Wetlands

#### 4.5.3.1 Effect of the Proposed Action

Executive Order 11990 calls for the avoidance and minimization of wetland impacts wherever there is a practicable alternative. Wetlands are not present on the proposed site of the SBFA. Drainage ditches constructed in uplands are not considered waters of the United States and, thus, no permit from the USACE is required for any re-alignment of ditches and drainage swales (33CFR333.4(a)(3) and CFR33 Part 330).

#### 4.5.3.2 Effect of New Dedicated Facility

Wetlands are not present on the proposed site for the NDF. Drainage ditches constructed in uplands are not considered waters of the United States and, thus, no permit from the USACE is required for any re-alignment of ditches and drainage swales (33CFR333.4(a)(3) and CFR33 Part 330).

#### 4.5.3.3 Effect of the No-action Alternative

Since a wetland is not present in this portion of the site, no effects are anticipated.

### **4.6 Socioeconomic and Cultural Resources**

#### 4.6.1 Demographics and Economic Activity

##### 4.6.1.1 Effect of the Proposed Action

The SBFA would only employ existing civil service personnel that will be temporarily relocated to the SBFA for Source Board activities. The personnel are currently located in other buildings throughout JSC. Some temporary jobs may be created during the construction.

Executive Order 12898, dated February 11, 1994, requires the preparation of an environmental justice strategy that follows the framework of the National Environmental Policy Act (NEPA) and Title VI of the Civil Rights Act. The Executive Order requires identifying and addressing disproportionately adverse human health or environmental impacts within minority populations and low-income populations.

Studies conducted for this project indicate that there will not be any disproportionate impacts to low-income populations or minority populations from the proposed action or any of the alternatives. No displacements will be required, and no impact to community cohesion is anticipated now or in the future, since the project area is confined to JSC property. Because no residential households will be displaced, no minority populations or low income populations will be divided or isolated by the proposed project, and no adverse effects from noise or air emissions will be created, no environmental justice issues have been identified for the proposed project.

#### 4.6.1.2 Effect of New Dedicated Facility

The NDF would only employ existing civil service personnel that will be temporarily relocated to the NDF for Source Board activities. The personnel are currently located in other buildings throughout JSC. Some temporary jobs may be created during the construction.

Executive Order 12898, dated February 11, 1994, requires the preparation of an environmental justice strategy that follows the framework of the National Environmental Policy Act (NEPA) and Title VI of the Civil Rights Act. The Executive Order prohibits disproportionately adverse human health or environmental impacts within minority and low-income populations.

Studies conducted for this project indicate that there will not be any disproportionate impacts to low-income or minority populations. No displacements will be required, and no impact to community cohesion is anticipated now or in the future, since the project area is confined to JSC property. Because no residential households will be displaced, and no minority populations or low income populations will be divided or isolated by the proposed project, no environmental justice issues have been identified for the proposed project.

#### 4.6.1.3 Effect of the No-action Alternative

The implementation of the no-action alternative would have a minor, negative, short-term effect on employment. If the SBFA or NDF were not constructed, new jobs consisting of temporary construction work would not be created and potential learning opportunities would cease to exist.

### 4.6.2 Cultural Resources

#### 4.6.2.1 Effect of the Proposed Action

Impact to cultural or archaeological resources is not anticipated at the proposed site. The THC has reviewed the project and determined that the JSC properties classified as National Historic Landmarks (i.e.; vacuum chamber in building 32 and mission control in building 30) will not be effected by the proposed action. In the event that archeological deposits or features are encountered during construction, the construction operations shall cease within the immediate area and the Archeological Division of the THC and

NASA shall be immediately contacted for further consultation. Work would cease in the vicinity until the requirements of Section 106 of the National Historic Preservation Act were met.

#### 4.6.2.2 Effect of New Dedicated Facility

Impact to cultural or archaeological resources is not anticipated at the proposed site. The JSC properties classified as National Historic Landmarks (i.e.; vacuum chamber in building 32 and mission control in building 30) would not be effected by the construction of the new dedicated facility. In the event that archeological deposits or features are encountered during construction, the construction operations shall cease within the immediate area and the Archeological Division of the THC and NASA shall be immediately contacted for further consultation. Work would cease in the vicinity until the requirements of Section 106 of the National Historic Preservation Act were met.

#### 4.6.2.3 Effect of the No-action Alternative

The no-action alternative would not result in land alterations; consequently, any unknown archeological deposits or features would not be disturbed. There are no records of cultural resources for this site.

### **4.7 Cumulative Effects**

The proposed actions are not anticipated to have any measurable affect on local resources and facilities. Little, if any, new demand is expected for land resources, recreational space, or other resources in any other areas surrounding the proposed facilities. Implementation of these actions would provide the necessary facilities for supporting the Constellation activities and help in meeting NASA's long range manned space flight goals without any reasonably foreseeable physical, biological, social, or economic effects on the quality of the human environment.

## **5.0 AGENCIES AND INDIVIDUALS CONTACTED**

### **5.1 Federal Agencies**

Mr. Dale R. Hoff  
Federal Emergency Management Agency, Region VI  
800 North Loop 288  
Denton, Texas 76201-3698

Mr. Michael Jansky  
Regional Environmental Review Coordinator  
United States Environmental Protection Agency  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

Ms. Christine Maylath  
National Park Service, IMDE-PE  
P.O. Box 25287  
Denver, Colorado 80225

Mr. Sam Brown  
United States Department of Agriculture, Natural Resource Conservation Service  
101 South Main  
Temple, Texas 76501-7682

Ms. Edith Erfling  
United States Fish and Wildlife Service  
Division of Ecological Services  
17629 El Camino Real, Suite 211  
Houston, Texas 77058

### **5.2 State Agencies**

Ms. Cathy Mayes  
Texas Natural Resource Conservation Commission  
Office of Policy and Regulatory Development  
P.O. Box 13087 - MC-205  
Austin, Texas 78711-3087

Mr. Roy G. Frye  
Texas Parks and Wildlife Department  
Wildlife Habitat Assessment Program  
4200 Smith School Road  
Austin, Texas 78744

Dr. James E. Bruseth  
Deputy State Historic Preservation Officer  
Texas Historic Commission  
P.O. Box 12276  
Austin, Texas 78711-2276

Mr. Tom Knuckoles  
Texas General Land Office  
1700 North Congress Avenue  
Austin, Texas 78701-1495

### **5.3 Local Agencies**

Mr. Michael D. Talbott, P. E.  
Harris County Flood Control District  
9900 Northwest Freeway  
Houston, Texas 77092

Mr. Sheldon M. Kindall  
Regional Director  
Texas Archeological Society  
414 Pebblebrook  
Seabrook, Texas 77586

Mr. Al Davis  
Harris County Historical Commission  
929 Waxmyrtle  
Houston, Texas 77079

Mr. Alan C. Clark  
MPO Director  
Houston-Galveston Area Council  
P.O. Box 22777  
Houston, Texas 77227-2777

Mr. Rick Beverlin  
Houston-Galveston Area Council  
P.O. Box 22777  
Houston, Texas 77227-2777

## 6.0 REFERENCES

Federal Emergency Management Agency, National Flood Insurance Program; Flood Insurance Rate Map, Harris County and Incorporated Areas, Map Number 48201C1090K, Panel 1090 of 1135, 2000.

Hatch, S.L., K.N. Gandhi and L.E. Brown. 1990. Checklist of the Vascular Plants of Texas. Publication MP-1655. Texas Agricultural Experiment Station. College Station, Texas.

Plaisance, David; Clear Lake City Water Authority, personal communication, June 2000.

Preliminary Engineering Report, NASA Source Board Facility Addition; Shah Smith & Associates, Inc., January 2000.

Soil Conservation Service, United States Department of Agriculture; Soil Survey of Harris County, Texas, 1976.

Texas Department of Water Resources; Digital models for simulation of ground-water hydrology of the Chicot and Evangeline aquifers along the Gulf coast of Texas, 1985.

United States Department of Commerce, Bureau of the Census; Census of Population and Housing. Harris County, Texas, Census Tract Number 373.03, 2000.

U.S. Fish & Wildlife Service Endangered Species List  
(<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm>)

United States Geological Survey, United States Department of the Interior; League City, Texas, 7.5 Minute Topographic Quadrangle, 1995.

Bay Area Houston Economic Partnership website, Economic Impact -JSC NASA  
(<http://www.bayareahouston.com/Home/NASA-JohnsonSpaceCente/EconomicImpact/>)

WeatherBase – National Climatic Data Center; Canty and Associates LLC, Great Falls, VA  
(<http://www.weatherbase.com/weather/weather.php3?s=34227&refer=&units=us>)



**APPENDIX A**  
**Selected Site Photographs**



1. Proposed location for New Dedicated Facility (view to northwest)



2. Existing Building B-265 and proposed location of Addition (view to northeast)

**APPENDIX A**  
**Selected Site Photographs**



3. Existing Building B-265 and proposed location of Addition (view to southwest)



4. Open area to the east of existing building, B-265 with Astronaut Jogging Track (view to east)

**APPENDIX B**  
**LEED Documentation**





LEED-NC

## LEED-NC Version 2.2 Registered Project Checklist

Source Board Building, Building 265, Phases 3 & 4  
Houston, Texas

Yes ? No

12-Dec-06

<b>7</b>	<b>7</b>	<b>Sustainable Sites</b>	<b>14 Points</b>
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Y					
1				Prereq 1	<b>Construction Activity Pollution Prevention</b> Required
				Credit 1	<b>Site Selection</b> 1
			1	Credit 2	<b>Development Density &amp; Community Connectivity</b> 1
			1	Credit 3	<b>Brownfield Redevelopment</b> 1
			1	Credit 4.1	<b>Alternative Transportation</b> , Public Transportation Access 1
1				Credit 4.2	<b>Alternative Transportation</b> , Bicycle Storage & Changing Rooms 1
1				Credit 4.3	<b>Alternative Transportation</b> , Low-Emitting and Fuel-Efficient Vehicles 1
1				Credit 4.4	<b>Alternative Transportation</b> , Parking Capacity 1
			1	Credit 5.1	<b>Site Development</b> , Protect or Restore Habitat 1
1				Credit 5.2	<b>Site Development</b> , Maximize Open Space 1
			1	Credit 6.1	<b>Stormwater Design</b> , Quantity Control 1
			1	Credit 6.2	<b>Stormwater Design</b> , Quality Control 1
			1	Credit 7.1	<b>Heat Island Effect</b> , Non-Roof 1
1				Credit 7.2	<b>Heat Island Effect</b> , Roof 1
1				Credit 8	<b>Light Pollution Reduction</b> 1

Yes ? No

<b>3</b>	<b>2</b>	<b>Water Efficiency</b>	<b>5 Points</b>
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1				Credit 1.1	<b>Water Efficient Landscaping</b> , Reduce by 50% 1
1				Credit 1.2	<b>Water Efficient Landscaping</b> , No Potable Use or No Irrigation 1
			1	Credit 2	<b>Innovative Wastewater Technologies</b> 1
1				Credit 3.1	<b>Water Use Reduction</b> , 20% Reduction 1
			1	Credit 3.2	<b>Water Use Reduction</b> , 30% Reduction 1

Yes ? No

<b>7</b>	<b>2</b>	<b>Energy &amp; Atmosphere</b>	<b>17 Points</b>
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Y				Prereq 1	<b>Fundamental Commissioning of the Building Energy Systems</b> Required
Y				Prereq 2	<b>Minimum Energy Performance</b> Required
Y				Prereq 3	<b>Fundamental Refrigerant Management</b> Required
4				Credit 1	<b>Optimize Energy Performance</b> 1 to 10
			1	Credit 2	<b>On-Site Renewable Energy</b> 1 to 3
1				Credit 3	<b>Enhanced Commissioning</b> 1
1				Credit 4	<b>Enhanced Refrigerant Management</b> 1
			1	Credit 5	<b>Measurement &amp; Verification</b> 1
1				Credit 6	<b>Green Power</b> 1

continued...

Yes ? No

<b>7</b>	<b>2</b>	<b>4</b>	<b>Materials &amp; Resources</b>	<b>13 Points</b>
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Y				Prereq 1	<b>Storage &amp; Collection of Recyclables</b>	Required
			1	Credit 1.1	<b>Building Reuse</b> , Maintain 75% of Existing Walls, Floors & Roof	1
			1	Credit 1.2	<b>Building Reuse</b> , Maintain 100% of Existing Walls, Floors & Roof	1
			1	Credit 1.3	<b>Building Reuse</b> , Maintain 50% of Interior Non-Structural Elements	1
1				Credit 2.1	<b>Construction Waste Management</b> , Divert 50% from Disposal	1
1				Credit 2.2	<b>Construction Waste Management</b> , Divert 75% from Disposal	1
	1			Credit 3.1	<b>Materials Reuse</b> , 5%	1
	1			Credit 3.2	<b>Materials Reuse</b> , 10%	1
1				Credit 4.1	<b>Recycled Content</b> , 10% (post-consumer + ½ pre-consumer)	1
1				Credit 4.2	<b>Recycled Content</b> , 20% (post-consumer + ½ pre-consumer)	1
1				Credit 5.1	<b>Regional Materials</b> , 10% Extracted, Processed & Manufactured Regional	1
1				Credit 5.2	<b>Regional Materials</b> , 20% Extracted, Processed & Manufactured Regional	1
			1	Credit 6	<b>Rapidly Renewable Materials</b>	1
1				Credit 7	<b>Certified Wood</b>	1

Yes ? No

<b>11</b>	<b>2</b>	<b>2</b>	<b>Indoor Environmental Quality</b>	<b>15 Points</b>
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Y				Prereq 1	<b>Minimum IAQ Performance</b>	Required
Y				Prereq 2	<b>Environmental Tobacco Smoke (ETS) Control</b>	Required
1				Credit 1	<b>Outdoor Air Delivery Monitoring</b>	1
			1	Credit 2	<b>Increased Ventilation</b>	1
1				Credit 3.1	<b>Construction IAQ Management Plan</b> , During Construction	1
1				Credit 3.2	<b>Construction IAQ Management Plan</b> , Before Occupancy	1
1				Credit 4.1	<b>Low-Emitting Materials</b> , Adhesives & Sealants	1
1				Credit 4.2	<b>Low-Emitting Materials</b> , Paints & Coatings	1
1				Credit 4.3	<b>Low-Emitting Materials</b> , Carpet Systems	1
1				Credit 4.4	<b>Low-Emitting Materials</b> , Composite Wood & Agrifiber Products	1
1				Credit 5	<b>Indoor Chemical &amp; Pollutant Source Control</b>	1
1				Credit 6.1	<b>Controllability of Systems</b> , Lighting	1
			1	Credit 6.2	<b>Controllability of Systems</b> , Thermal Comfort	1
	1			Credit 7.1	<b>Thermal Comfort</b> , Design	1
	1			Credit 7.2	<b>Thermal Comfort</b> , Verification	1
1				Credit 8.1	<b>Daylight &amp; Views</b> , Daylight 75% of Spaces	1
1				Credit 8.2	<b>Daylight &amp; Views</b> , Views for 90% of Spaces	1

Yes ? No

<b>5</b>			<b>Innovation &amp; Design Process</b>	<b>5 Points</b>
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1				Credit 1.1	<b>Innovation in Design</b> : Double area of open space	1
1				Credit 1.2	<b>Innovation in Design</b> : Divert 95% or higher construction waste	1
1				Credit 1.3	<b>Innovation in Design</b> : 100% impervious area is high albedo	1
1				Credit 1.4	<b>Innovation in Design</b> : Commission Building Envelope	1
1				Credit 2	<b>LEED® Accredited Professional</b>	1

Yes ? No

<b>40</b>	<b>4</b>	<b>17</b>	<b>Project Totals (pre-certification estimates)</b>	<b>69 Points</b>
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Certified 26-32 points Silver 33-38 points Gold 39-51 points Platinum 52-69 points

**APPENDIX C**  
**Agency Correspondence**

National Aeronautics and  
Space Administration

**Lyndon B. Johnson Space Center**  
2101 NASA Parkway  
Houston, Texas 77058-3696



Reply to Attn of JE-07-023

**APR 06 2007**

Ms. Sue Gross  
Region 5 Director  
Texas Archeological Society  
114 Marigold  
Lake Jackson, Texas 77566

**SUBJECT:** Coordination Request for Environmental Assessment  
Project Name: Source Board Facility Addition  
Project Location: NASA - Johnson Space Center, Building 265, Houston, Texas

Dear Ms. Gross:

Lynx, Ltd. is in the process of preparing an Environmental Assessment (EA) for the above referenced project. This EA is being prepared on behalf of NASA - Johnson Space Center. As required under the National Environmental Policy Act (NEPA), we are submitting pertinent information concerning the proposed project for your review and comment.

Please provide any comments on the proposed project by June 1, 2007. If there are no comments, please sign below and fax to (281) 483-7285. If there are any questions, please contact Barry Daniels, with Lynx, Ltd., at 281-483-4748 or by e-mail at [barry.daniels-1@nasa.gov](mailto:barry.daniels-1@nasa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "David Hickens", written over a horizontal line.

David Hickens  
Lead, Environmental Office

Enclosure

Approval: *no comment*

A handwritten signature in black ink, appearing to read "Sue Gross", written over a horizontal line.

Sue Gross

*4-15-07*  
Date

National Aeronautics and  
Space Administration

**Lyndon B. Johnson Space Center**  
2101 NASA Parkway  
Houston, Texas 77058-3696



Reply to Attn of: JE-07-023

APR 06 2007

Mr. John Sakolosky  
Federal Emergency Management Agency  
Flood Control – Local Office  
3300 Main Street  
Houston, Texas 77002

SUBJECT: Coordination Request for Environmental Assessment  
Project Name: Source Board Facility Addition  
Project Location: NASA - Johnson Space Center, Building 265, Houston, Texas

Dear Mr. Sakolosky:

Lynx, Ltd. is in the process of preparing an Environmental Assessment (EA) for the above referenced project. This EA is being prepared on behalf of NASA - Johnson Space Center. As required under the National Environmental Policy Act (NEPA), we are submitting pertinent information concerning the proposed project for your review and comment.

Please provide any comments on the proposed project by June 1, 2007. If there are no comments, please sign below and fax to (281) 483-7285. If there are any questions, please contact Barry Daniels, with Lynx, Ltd., at 281-483-4748 or by e-mail at [barry.daniels-1@nasa.gov](mailto:barry.daniels-1@nasa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "D. Hickens", written over a horizontal line.

David Hickens  
Lead, Environmental Office

Enclosure

Approval:

A handwritten signature in black ink, appearing to read "John J. Sakolosky", written over a horizontal line.

John Sakolosky

4/27/07  
Date





**TEXAS  
HISTORICAL  
COMMISSION**

*The State Agency for Historic Preservation*

RICK PERRY, GOVERNOR

JOHN L. NAU, III, CHAIRMAN

F. LAWRENCE OAKS, EXECUTIVE DIRECTOR

May 3, 2007

Mr. David Hickens, Lead  
Environmental Office  
National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
2101 NASA Parkway  
Houston, TX 77058-3696

*Re: Project review under Section 106 of the National Historic Preservation Act of 1966,  
Proposed Source Board Facility addition, Building 265, LBJ Space Center, Houston, Harris  
County, Texas (NASA)*

Dear Mr. Hickens,

Thank you for your correspondence describing the above referenced project. This letter serves as initial comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

The review staff, led by Derek Satchell, has reviewed the information for the above property submitted and received on April 10, 2007. In order for us to make a determination of eligibility on the existing building, and possibly a subsequent determination of effect on the overall project, we will need to review the Environmental Assessment (EA) document. A draft copy of the EA may be mailed directly to our National Register Coordinator, Mr. Gregory Smith. His business card is enclosed for your convenience.

We look forward to continuing our consultation with your office and hope to maintain a partnership that will foster effective historic preservation. **If you have any questions concerning our review or if we can be of further assistance, please contact Derek Satchell at 512/463-7687.**

Sincerely,

A handwritten signature in black ink, appearing to read "Derek Satchell", with a long horizontal flourish extending to the right.

Derek Satchell, Project Reviewer  
for: F. Lawrence Oaks, State Historic Preservation Officer

FLO/ds

Cc: Patrick Van Pelt, Chair, Harris County Historical Commission



**TEXAS  
HISTORICAL  
COMMISSION**

*The State Agency for Historic Preservation*

RICK PERRY, GOVERNOR

JOHN L. NAU, III, CHAIRMAN

F. LAWRENCE OAKS, EXECUTIVE DIRECTOR

16 August 2007

Mr. Kirk Hummel,  
Acting Lead, Environmental Office  
Lyndon B. Johnson Space Center  
National Aeronautics and Space Administration  
2101 NASA Parkway (JE-1)  
Houston, Texas 77058-3696

Re: Project review under Section 106 of the National Historic Preservation Act of 1966,  
Proposed Source Board Facility Addition, Building 265, Johnson Space Center, Houston,  
Harris County, Texas  
*JE-07-069*

Dear Mr. Hummel:

Thank you for your submission of the draft Environmental Assessment for the above referenced project. This letter serves as comment on the proposed undertaking from F. Lawrence Oaks, Executive Director of the Texas Historical Commission and the State Historic Preservation Officer.

Texas Historical Commission staff, led by Rachel Leibowitz, has completed a review of the information submitted by applying state and federal criteria for historic designation. As a result of this review, we have made the determination of "No Historic Properties Affected." This is based upon our understanding that Building 265 is not historically associated with the Shuttle Program and is, as the draft EA states, approximately one half-mile from the two National Historic Landmark sites in buildings 30 and 32 at the Johnson Space Center.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please contact Rachel Leibowitz at 512/463-6046.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rachel", followed by a long horizontal flourish.

Rachel Leibowitz, Historian,  
for F. Lawrence Oaks, SHPO

cc: David Hickens, NASA  
Abdul Hanif, NASA  
Barry Daniels, Lynx



National Aeronautics and  
Space Administration

Lyndon B. Johnson Space Center  
2101 NASA Parkway  
Houston, Texas 77058-3696



Certified Mail

RECEIVED

AUG - 1 2007

Reply to Attn of

JE-07-069

JUL 26 2007

Texas Historical Commission

Mr. Gregory Smith  
National Register Coordinator  
Texas Historical Commission  
P.O. Box 12276  
Austin, TX 78711-2276

Subject: Project Review Under Section 106 of the National Historic Preservation Act of 1966, Proposed Source Board Facility Addition, Building 265, National Aeronautics and Space Administration (NASA) Johnson Space Center, Houston, Harris County, Texas

Enclosed for your review is a copy of a draft Environmental Assessment (EA) for the above referenced project. This EA is being prepared on behalf of NASA Johnson Space Center.

Please provide any comments on the proposed project by August 20, 2007. Please contact me at 281-483-6642 should you have any questions regarding this information.

Sincerely,

Kirk Hummel  
Acting Lead, Environmental Office

Enclosure

cc:  
JE/S. Hulsey  
DYN/B. Daniels

NO HISTORIC  
PROPERTIES AFFECTED  
PROJECT MAY PROCEED

By   
for F. Lawrence Oaks  
State Historic Preservation Officer  
Date 08/16/07

From: Graham, Jack [jack.graham@dhs.gov]  
Sent: Monday, April 23, 2007 2:45 PM  
To: Daniels, Barry (JSC-JA)[CSC]  
Subject: Environmental Assessment

Barry,

This email is in reference to an EA sent to this office for comments. The document was prepared by NASA and concerns Building 265, Johnson Space Center, Houston, TX.

We offer the following comments; if this property is owned by the federal government then Executive Order 11988 would be appropriate guidance. If this property falls under the jurisdiction of local government then please contact the local floodplain administrator located at city hall in Houston.

Please feel free to contact me if you have any questions.

Jack Graham, CFM  
Natural Hazards Program Specialist  
Community Mitigation Branch  
DHS/FEMA Region VI  
800 N. Loop 288  
Denton, TX 76209

940 898 5463 tel  
940 898 5195 fax

jack.graham@dhs.gov



National Aeronautics and  
Space Administration

Lyndon B. Johnson Space Center  
2101 NASA Parkway  
Houston, Texas 77058-3696



Reply to Attn of: JE-07-023

APR 06 2007

Ms. Kathy Boydson  
Texas Parks and Wildlife  
Wildlife Habitat Assessment Program  
4200 Smith School Road  
Austin, Texas 78744

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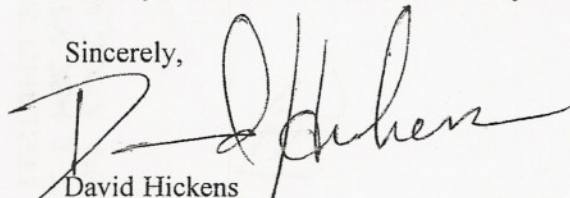
SUBJECT: Coordination Request for Environmental Assessment  
Project Name: Source Board Facility Addition  
Project Location: NASA - Johnson Space Center, Building 265, Houston, Texas  
07-06 Log # 3282

Dear Ms. Boydson:

Lynx, Ltd. is in the process of preparing an Environmental Assessment (EA) for the above referenced project. This EA is being prepared on behalf of NASA - Johnson Space Center. As required under the National Environmental Policy Act (NEPA), we are submitting pertinent information concerning the proposed project for your review and comment.

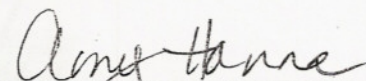
Please provide any comments on the proposed project by June 1, 2007. If there are no comments, please sign below and fax to (281) 483-7285. If there are any questions, please contact Barry Daniels, with Lynx, Ltd., at 281-483-4748 or by e-mail at [barry.daniels-1@nasa.gov](mailto:barry.daniels-1@nasa.gov).

Sincerely,

  
David Hickens  
Lead, Environmental Office

Enclosure

Approval:

  
Kathy Boydson Amy Hanna

6/7/07  
Date

(5)

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Division of Ecological Services

17629 El Camino Real #211

Houston, Texas 77058-3051



February 2007

This responds to your request for threatened and endangered species information in the Clear Lake Ecological Services Field Office's area of responsibility. According to Section 7(a)(2) of the Endangered Species Act and the implementing regulations, it is the responsibility of each federal agency to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any federally listed species. Therefore, we are providing information to assist you in meeting your obligations under the Endangered Species Act.

A county by county listing of federally listed threatened and endangered species that occur within this office's work area can be found at

<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm>. You should use the county by county listing and other current species information to determine whether suitable habitat for a listed species is present at your project site. If suitable habitat is present, a qualified individual should conduct surveys to determine whether a listed species is present.

After completing a habitat evaluation and/or any necessary surveys, you should evaluate the project for potential effects to listed species and make one of the following determinations:

**No effect** – the proposed action will not affect federally listed species or critical habitat (i.e., suitable habitat for the species occurring in the project county is not present in or adjacent to the action area). No coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.

**Is not likely to adversely affect** – the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effects. You should seek written concurrence from the Service that adverse effects have been eliminated. Be sure to include all of the information and documentation you used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.

**Is likely to adversely affect** – adverse effects to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. If the overall effect of the proposed action is beneficial to the listed species but also is likely to cause some adverse effects to individuals of that species, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires formal Section 7 consultation with this office.

Regardless of your determination, the Service recommends that you maintain a complete record of the evaluation, including steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related articles.

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## THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

July 30, 2007

Mr. David Hickens  
 Lead, Environmental Office  
 Lyndon B. Johnson Space Center  
 2101 NASA Parkway  
 Houston, TX 77058-3696

Re: TCEQ Grant and Texas Review and Comment System (TRACS) #7688, Source Board Facility Addition, NASA-Johnson Space Center, Building 265, Houston, Texas

Dear Mr. Hickens:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced project and offers following comments:

A review of the project for General Conformity impact in accordance with 40 CFR Part 93 and Title 30, Texas Administrative Code § 101.30 indicates that the proposed project is located in Harris County, which is currently classified as a moderate ozone nonattainment area. Therefore, general conformity rules apply.

The two criteria pollutants of concern as precursors to ozone formation are volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>). An increase of 100 tons per year for VOCs or NO<sub>x</sub>, resulting from the proposed project, could trigger general conformity analysis. However, the emissions from the proposed project are expected to be well below the 100 tons per year significance level. Therefore, a general conformity analysis will not be required.

Although any demolition, construction, rehabilitation or repair project will produce dust and particulate emissions, these actions should pose no significant impact upon air quality standards. Any minimal dust and particulate emissions should be easily controlled by the construction contractors using standard dust mitigation techniques.

We recommend the environmental assessment address actions that will be taken to prevent surface and groundwater contamination.

Thank you for the opportunity to review this project. If you have any questions, please call Ms. Betty Thompson at (512) 239-1627.

Sincerely,

Thomas W. Weber, Manager  
 Water Programs, Chief Engineer's Office