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☐ Original
☒ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 BR02017
Field Date
Form Date
Recorder #

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) Orbiter Payload Canister (2) — Multiple Listing (DHR only)
Survey Project Name HAER Documentation Project — Survey # (DHR only)
National Register Category (please check one) ☐building ☐structure ☐district ☐site ☒object
Ownership: ☐private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☒federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
M7-777		D	Avenue	SE

Address:
Cross Streets (nearest / between) (See Continuation Sheet)
USGS 7.5 Map Name ORSINO — USGS Date 1976 — Plat or Other Map
City / Town (within 3 miles) Titusville — In City Limits? ☐yes ☐no ☐unknown — County Brevard
Township 23S — Range 37E — Section 07 — ¼ section: ☐NW ☐SW ☒SE ☐NE — Irregular-name:
Tax Parcel # not applicable — Landgrant not applicable
Subdivision Name not applicable — Block n/a — Lot n/a
UTM Coordinates: Zone ☐16 ☒17 — Easting 534346 — Northing 3154693
Other Coordinates: X: — Y: — Coordinate System & Datum NAD 1983
Name of Public Tract (e.g., park)

HISTORY

Construction Year: 1978 ☐approximately ☐year listed or earlier ☒year listed or later
Original Use Other — From (year): 1979 — To (year): 2011
Current Use Other — From (year): 1979 — To (year): 2011
Other Use Not applicable — From (year): — To (year):
Moves: ☐yes ☒no ☐unknown — Date: — Original address
Alterations: ☐yes ☒no ☐unknown — Date: — Nature
Additions: ☐yes ☒no ☐unknown — Date: — Nature
Architect (last name first): McDonnell Douglas Space System — Builder (last name first): Belko Steel and Specialty Main
Ownership History (especially original owner, dates, profession, etc.) National Aeronautics and Space Administration (NASA)
Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☐unknown Describe

DESCRIPTION

Style Not applicable — Exterior Plan Not applicable — Number of Stories n/a
Exterior Fabric(s) 1. Metal 2. Steel 3.
Roof Type(s) 1. Not applicable 2. 3.
Roof Material(s) 1. 2. 3.
Roof secondary strucs. (dormers etc.) 1. Not applicable 2.
Windows (types, materials, etc.) not applicable
Distinguishing Architectural Features (exterior or interior ornaments) not applicable
Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) not applicable

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date Init. KEEPER – Determined eligible: ☐yes ☐no Date NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 BR02017

DESCRIPTION (continued)

Chimney: No.____ Chimney Material(s): 1. _____ 2. not applicable

Structural System(s): 1. Metal skeleton 2. Steel skeleton 3. _____

Foundation Type(s): 1. _____ 2. not applicable

Foundation Material(s): 1. _____ 2. not applicable

Main Entrance (stylistic details) not applicable

Porch Descriptions (types, locations, roof types, etc.) not applicable

Condition (overall resource condition): ☒excellent ☐good ☐fair ☐deteriorated ☐ruinous

Narrative Description of Resource see continuation sheet

Archaeological Remains none ☐Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☒occupant/owner interview	☐plat maps
☐property appraiser / tax records	☐newspaper files	☐neighbor interview	☒Public Lands Survey (DEP)
☐cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☒HABS/HAER record search

☒other methods (describe) NASA John F. Kennedy Space Center Archives

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) see continuation sheet

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☒yes ☐no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) see continuation sheet

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. Science
2. Transportation
3. Engineering
4. Other
5. _____
6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type Photographs — Maintaining organization Other
Document description HAER Photography and Narrative Context — File or accession #'s NPS/LOC HAER No.FL-8-11-I

2) Document type Photographs — Maintaining organization National Aeronautics and Space Administration
Document description Canisters in use — File or accession #'s http://mediaarchive.ksc.nasa.gov/

RECORDER INFORMATION

Recorder Name Julie J. Coco — Affiliation New South Associates

Recorder Contact Information (address / phone / fax / e-mail) 6150 E.Ponce de Leon Ave. Stone Mtn, GA 30083 770-498-4155/jcoco@newsouthassoc.com

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE**

If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

CONTINUATION SHEET

Location and Mapping:

As the Orbital Payload Canisters (canisters) are mobile structures, and are generally found with their transporters, they have been used in multiple locations at the John F. Kennedy Space Center (KSC). However, they are predominately used in the KSC Industrial Area and the Launch Complex 39A and B areas. There have been occasions where the canisters have been transported to other locations on KSC or Cape Canaveral Air Station (CCAS), including trips to pick up classified DoD payloads. In the Launch Complex 39 Area, the canisters were used at the Vehicle Assembly Building (VAB) and at Launch Pads 39A and B, where the payloads are transferred to the shuttle orbiters.

Within the Industrial Area, the primary location for the canisters is the Canister Rotation facility (CRF), Building M7-777. This area serves as the rotation site, as well as the storage and maintenance site, for the canisters. The building is located in the Industrial Area at the corner of D Avenue and 4th Street, three blocks south of the KSC Administration Building on 1st Street. Another location where the canisters have been used regularly is the Space Station Processing Facility (SSPF), which is also located in the Industrial Area.

Narrative Description of Resource:

The Orbiter Payload Canisters were designed and built exclusively to protect and transport space shuttle payloads from various processing facilities to the launch pads or the VAB where the payloads are subsequently transferred to the space shuttle orbiters. Only two canisters were constructed and they have served in the same capacity since 1979.

NASA and McDonnell Douglas designed and constructed the canisters to replicate the exact dimensions of the space shuttle orbiter's payload bay. This allows the payload to be preloaded into a vessel shaped identically to the shuttle's payload bay. The canisters contain identical mounting points and exact environmental specifications, which are customized for each payload.

The loaf-shaped canisters were designed to be 64'-6" long, 18'-0" wide, and 22'-7" high at their highest point. The approximate weight, when empty, is 105,000 pounds. The canisters were designed to carry payloads up to 15' in diameter and up to 60' in length. The carrying capacity is 65,000 pounds. The primary material used for construction was steel. The canisters are transported on two custom-built flatbed trucks called the Payload Canister Transporters.

In 2011, a HAER documentation package was completed for the Orbiter Payload Canisters. This package was entered into the National Park Service Collection as HAER No. FL-8-11-I. In addition to the Library of Congress, copies of the large format archival photography and narrative also are located at the KSC Archives and the Florida SHPO. The archival photography package contains prints of the exterior and interior of the canisters, as well as selected engineering drawings.

CONTINUATION SHEET

Bibliographic References:

Deming, Joan, and Patricia Slovinac. February 2008, revised July 2008. *NASA-Wide Survey and Evaluation of Historic Facilities in the Context of the U.S. Space Shuttle Program: Roll-Up Report*. Archaeological Consultants, Inc. Submitted to the National Aeronautics and Space Administration, Environmental Management Branch.

HAER No Fl-8-11-I. Documentation package prepared by Julie Coco, David Diener, and Mark Swanson of New South Associates. Submitted to the National Park Service, NASA, and the Florida SHPO in 2011.

Heumann, A. *Comprehensive View of the Transporter*. Unpublished Manuscript. August 15, 2002, pp. 1-9. On file, Canister Rotation Facility.

"Inside the Canister Rotation Facility," *Spaceport News*, January 11, 2002, pp. 4-5. On file, Kennedy Space Center Archives.

NASA Facts: Canister Rotation Facility. National Aeronautics and Space Administration, John F. Kennedy Space Center, Kennedy Space Center, Florida 328999. IS-2004-07-014-KSC (Rev. 2006). Accessed on October 1, 2010 at www.nasa.gov/centers/kennedy/pdf/167403main_CRF-06.pdf.

"Orbiter Payload Canister." *Notebook of Engineering Drawings and Plans*. Drawing: 79KO7577, 65 sheets, dated February 13, 1978. On file, Canister Rotation Facility.

Ragusa, James M. *Payload/Cargo Processing at the Launch Site*. Document 83-2603. On file, Kennedy Space Center Archives.

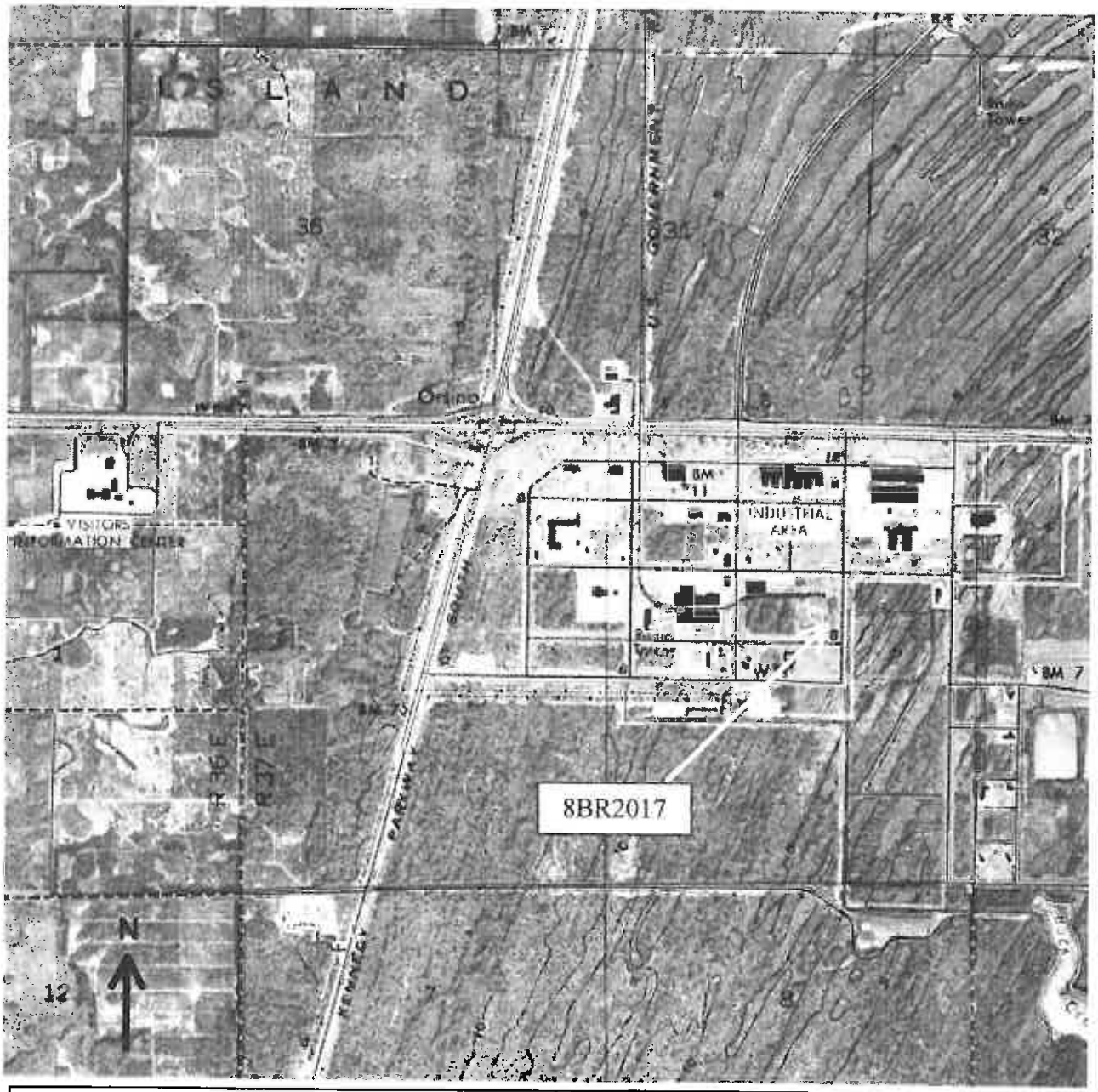
Space Transportation System: Facilities and Operations, Kennedy Space Center, Florida. National Aeronautics and Space Administration, John F. Kennedy Space Center. K-STSM-01, Appendix A, April 1984, Revision A. On file, Kennedy Space Center Archives.

Explanation of Evaluation:

The Orbiter Payload Canisters (8BR2017) were uniquely designed and constructed to match the orbiter cargo bay. They embody the distinctive method of construction specifically designed for the transportation of payloads in support of the U.S. Space Shuttle Program (SSP). The canisters are in excellent condition and they maintain integrity of location, design, setting, materials, workmanship, feeling, and association. They were determined eligible for the National Register of Historic Places (NRHP) in a survey of SSP facilities completed for NASA in 2008. The canisters were one of 26 assets on KSC determined individually eligible for their role in the SSP. NASA determined that the canisters were eligible under Criteria A and C in the areas of Space Exploration and Transportation, and Engineering. As the canisters have achieved significance in the past 50 years, Criterion Consideration G applies. NASA's "Shuttle Transition Historic Preservation Working Group" or HPWG made this determination. Out of 12 property types identified for NASA's SSP, the canisters were identified as Types 1 and 12, which are Resources Associated with Transportation and Resources Associated with Processing Payloads, respectively. NASA completed this evaluation as the SSP was scheduled for termination in 2011.

USGS MAP

Township 23 South, Range 37 East, Section 5
Orsino, Florida, 1976



Location Map
Kennedy Space Center Industrial Area