NPS Form 10-900
(7-81)

United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
received
date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Saturn V Dynamic Test Stand

and/or common Dynamic Structural Test Facility

2. Location

street & number George C. Marshall Space Flight Center ___ **not for publication**

city, town Huntsville ___ **vicinity of** **congressional district**

state Alabama **code** 01 **county** Madison **code** 089

3. Classification

Category	Ownership	Status	Present Use	
___ district	X public	___ occupied	___ agriculture	___ museum
___ building(s)	___ private	___ unoccupied	___ commercial	___ park
X structure	___ both	___ work in progress	___ educational	___ private residence
___ site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	___ in process	X yes: restricted	___ government	___ scientific
	___ being considered	___ yes: unrestricted	___ industrial	___ transportation
		___ no	___ military	X other: Inactive

4. Owner of Property

name National Aeronautics and Space Administration (NASA)

street & number

city, town Washington ___ **vicinity of** **state** D.C. 20546

5. Location of Legal Description

courthouse, registry of deeds, etc. National Aeronautics and Space Administration (NASA)

street & number Real Property Management Office Code NXG

city, town Washington **state** D.C. 20546

6. Representation in Existing Surveys

title Historic Properties Report (Draft) **has this property been determined eligible?** ___ yes ___ no

date July 1983 X **federal** ___ **state** ___ **county** ___ **local**

depository for survey records U.S. Army Redstone Arsenal

city, town Huntsville **state** Alabama

7. Description

Condition		Check one	Check one
X excellent	___ deteriorated	___ unaltered	X original site
___ good	___ ruins	X altered	___ moved date _____
___ fair	___ unexposed		

Describe the present and original (if known) physical appearance

The Dynamic Structural Test Facility was built in 1964 to conduct mechanical and vibrational tests on the fully assembled Saturn V rocket. The facility is 360 feet high and 122 feet by 98 feet at the base. It has a maximum center bay size of 74 feet by 74 feet, has a main derrick at the top of the structure capable of handling 200 tons at a 70 foot radius. The facility is connected by a cable tunnel to the East Test Area which provides instrumentation for testing. An elevator provides access to 15 of the 16 levels.

When in use the test vehicle rests on hydrodynamic supports which provide a maximum of 6 degrees of freedom of movement which is required when large space vehicles are dynamically tested. Vibration loads can be induced in the pitch, yaw, or longitudinal axis to obtain resonance frequencies and bending modes. Vertical mating procedures between stages can also be investigated and checked out.

After completion of testing for the Saturn V program the Dynamic Structural Test Facility was modified for testing the Space Shuttle. At the present time this facility is on a standby basis, but because of its unique capabilities to dynamically test large space vehicles, it will be retained for use in future NASA programs.

8. Significance

Period	Areas of Significance—Check and justify below				
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion	
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science	
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture	
___ 1600–1699	___ architecture	___ education	___ military	___ social/ humanitarian	
___ 1700–1799	___ art	X engineering	___ music	___ theater	
___ 1800–1899	___ commerce	___ exploration/settlement	___ philosophy	X transportation	
X 1900–	___ communications	___ industry	___ politics/government	X other (specify) Space Exploration	
		___ invention			

Specific dates 1964-Present **Builder/Architect** NASA

Statement of Significance (in one paragraph)

The Dynamic Structural Test Facility is significant because of its connection with the testing and development of the Saturn V rocket.

The Saturn V rocket was one of the most reliable rockets ever built. Upon its success depended the fate of the Apollo program and the Skylab program. The success of the Saturn V was because of two factors: (1) the stringent reliability and quality assurance programs developed to oversee the manufacture of the Saturn V, and (2) exhaustive ground testing.

The ground testing program was crucial to the success of the Saturn V. Once launched a Saturn V could never be recovered for testing. Any flaw in the vehicle could result in the loss of the vehicle and the loss of the lives of the astronauts riding the Apollo Command Module.

The Saturn V had to work and perform its job successfully every time. There was no margin for error. Due to this fact as much as 50 percent of the total effort and money in the Saturn V program was devoted to ground testing the vehicle. Every component of the vehicle was tested again and again separately and in partial and full assembly.

The Dynamic Structural Test Facility at Marshall represented the last step in this testing process before a Saturn V was accepted for full flight status. Once all of the components were accepted and tested the Saturn V was assembled and brought to the Dynamic Structural Test Facility to test the entire vehicle under dynamic load conditions. Mechanical and vibrational tests on the flight vehicle and on separate flight configurations were conducted until the data indicated that the Saturn V was clean and ready for flight status. Testing conducted in this facility permitted NASA and industry engineers their last chance to detect and correct any problems or flaws in the fully assembled flight vehicle. The success of the Saturn V program and the fact that no Saturn V ever failed in flight is indicative of the contribution of this facility. Major problems capable of causing a failure of the vehicle were discovered and corrected before the Saturn V ever reached Launch Complex 39 at the Kennedy Space Center. When the Apollo 11 moon flight lifted off the pad in July 1969 the astonauts and NASA were confident that the Saturn V would complete its job and launch the Command and Lunar Landing Module into a safe moon-bound trajectory.

9. Major Bibliographical References

See continuation sheets

10. Geographical Data

Acreage of nominated property Less than 1 acre

Quadrangle name Madison

Quadrangle scale 1:24,000

UMT References

	Zone	Easting	Northing
A	16	531060	3831960
B			
C			
D			
E			
F			
G			
H			

Verbal boundary description and justification

The boundary of the Saturn V Dynamic Test Stand is defined by the outside perimeter of Building 4550 at the Marshall Space Flight Center.

List all states and counties for properties overlapping state or county boundaries

state	**code**	**county**	**code**
state	**code**	**county**	**code**

11. Form Prepared By

name/title Harry A. Butowsky

organization National Park Service **date** May 15, 1984

street & number Division of History **telephone** (202) 343-8168

city or town Washington, D.C. 20240 **state**

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national ___ state ___ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89–665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

title **date**

For NPS use only

I hereby certify that this property is included in the National Register

date

Keeper of the National Register

Attest: **date**

Chief of Registration

Bibliography

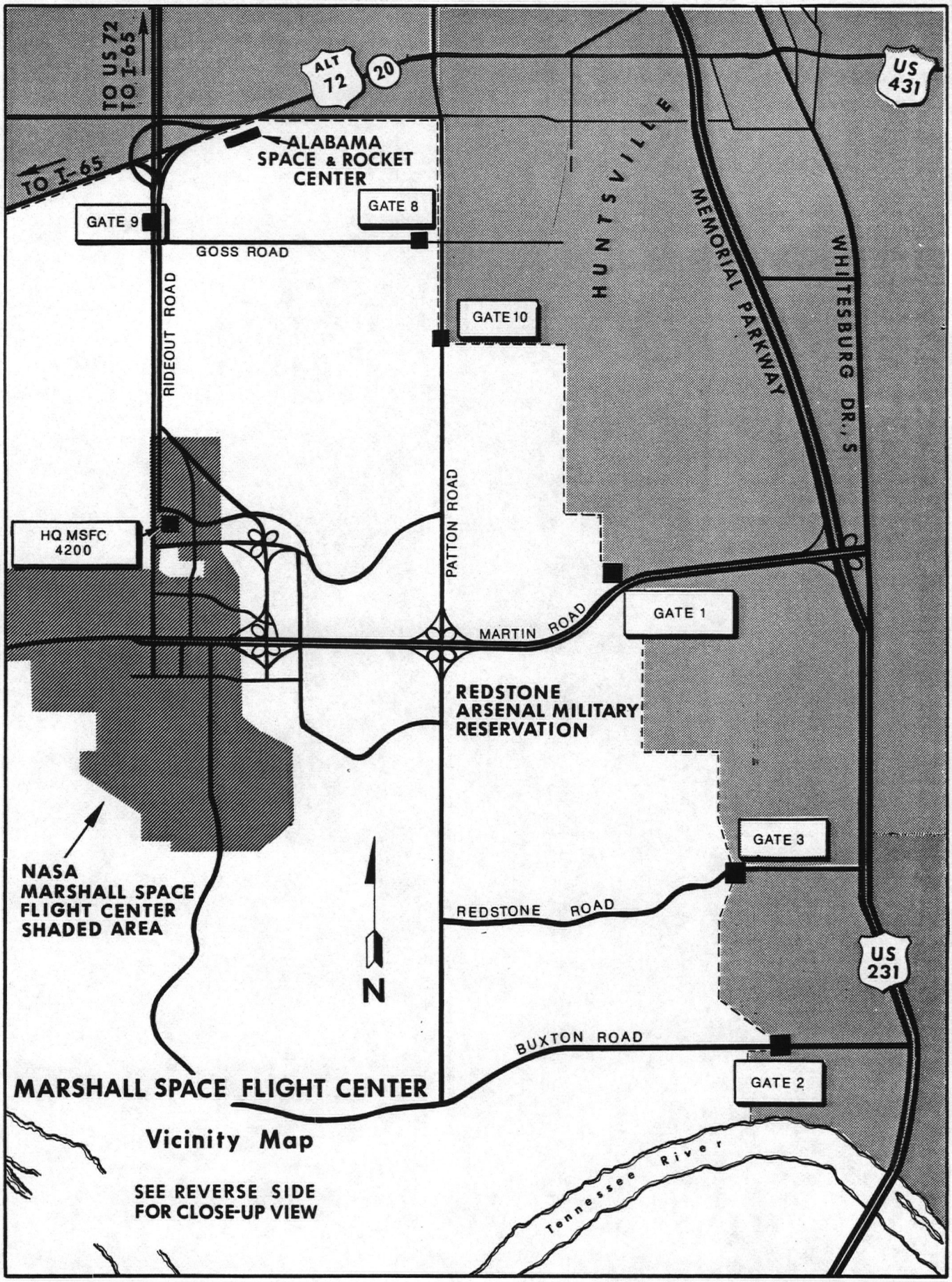
Bilstein, Roger B. Stages to Saturn: A Technological History of the Apollo/Saturn Launch Vehicles. Washington, D.C.: National Aeronautics and Space Administration, 1980.

Brooks, Courtney G., Grimwood, James M. and Swenson, Loyd S. Chariots for Apollo: A History of Manned Lunar Spacecraft. Washington, D.C.: National Aeronautics and Space Administration, 1979.

Draft Historic Properties Report: Redstone Arsenal, Alabama with the George C. Marshall Space Flight Center. Silver Spring, Maryland: Building Technology Incorporated, 1983.

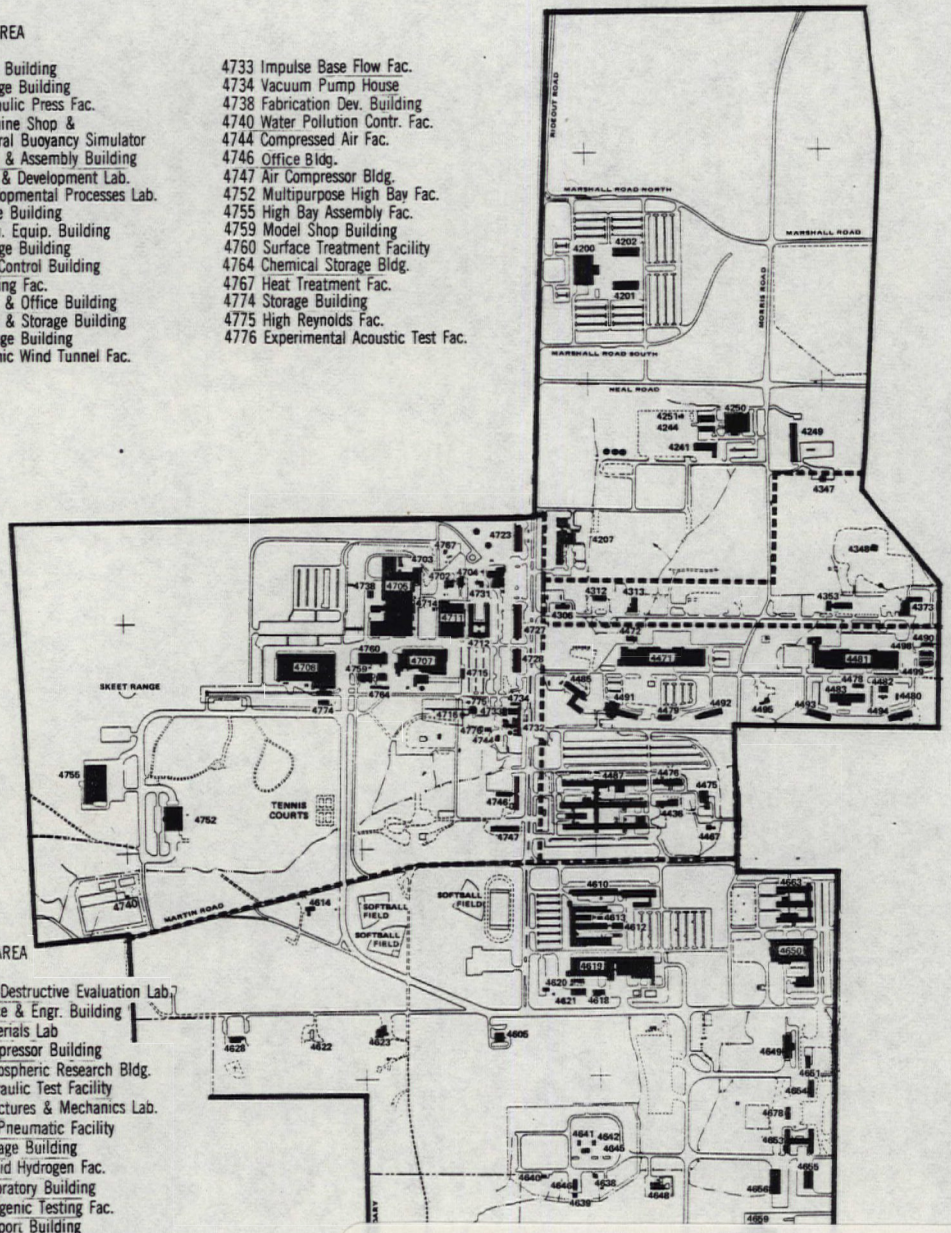
Master Plan George C. Marshall Space Flight Center. Washington, D.C.: National Aeronautics and Space Administration, 1980.

Technical Facilities Catalog Vol. lll. Washington, D.C.: National Aeronautics and Space Administration, 1974.


TO US 72
TO I-65
ALT 72
20
US 431
TO I-65
ALABAMA SPACE & ROCKET CENTER
GATE 9
GATE 8
GOSS ROAD
HUNTSVILLE
MEMORIAL PARKWAY
WHITESBURG DR., S
RIDEOUT ROAD
GATE 10
PATTON ROAD
HQ MSFC 4200
MARTIN ROAD
GATE 1
REDSTONE ARSENAL MILITARY RESERVATION
NASA MARSHALL SPACE FLIGHT CENTER SHADED AREA
N
GATE 3
REDSTONE ROAD
US 231
BUXTON ROAD
GATE 2
MARSHALL SPACE FLIGHT CENTER
Tennessee River
Vicinity Map
SEE REVERSE SIDE FOR CLOSE-UP VIEW

MARSHALL SPACE FLIGHT CENTER, ALABAMA

FACILITIES SITE MAP



4700 AREA

4702 Shop Building
4703 Storage Building
4704 Hydraulic Press Fac.
4705 Machine Shop & Neutral Buoyancy Simulator
4707 Shop & Assembly Building
4708 Engr & Development Lab.
4711 Developmental Processes Lab.
4712 Office Building
4714 Mech. Equip. Building
4715 Storage Building
4716 Test Control Building
4723 Training Fac.
4727 Shop & Office Building
4728 Shop & Storage Building
4731 Storage Building
4732 Bisonic Wind Tunnel Fac.
4733 Impulse Base Flow Fac.
4734 Vacuum Pump House
4738 Fabrication Dev. Building
4740 Water Pollution Contr. Fac.
4744 Compressed Air Fac.
4746 Office Bldg.
4747 Air Compressor Bldg.
4752 Multipurpose High Bay Fac.
4755 High Bay Assembly Fac.
4759 Model Shop Building
4760 Surface Treatment Facility
4764 Chemical Storage Bldg.
4767 Heat Treatment Fac.
4774 Storage Building
4775 High Reynolds Fac.
4776 Experimental Acoustic Test Fac.

4200 AREA

4200 Office Building
4201 Office Building
4202 Office Building
4207 Communications Facility
4241 Shop & Storage Bldg.
4244 Storage Building
4249 Office Building
4250 Office & Shop Bldg.
4251 Equipment Shed

4300 AREA

4306 Office Building
4312 MSFC Security Hq
4313 Shop Building
4347 Solar Magnetograph Fac.
4348 Storage Building
4353 Photo Lab.
4373 Laboratory Building (Assigned to Army)

4400 AREA

4436 Storage
4467 Celestial & Optical Sensors Fac.
4471 Storage & Office Bldg.
4472 Shop Building
4475 Hazardous Operations Lab.
4476 Environmental Test Fac.
4478 Equipment Shed
4479 Storage Shed
4480 Paint Shop
4481 Space Sciences Lab.
4482 Transportation Support Bldg.
4483 Vehicle Maint. Shop
4485 Office Building
4487 Laboratory & Ofc. Bldg.
4490 Storage Shed
4491 Documentation Repository
4492 Elec. Sys. Lab Bldg. (On Loan to Army)
4493 Shop & Storage Bldg.
4494 Center Activities Bldg.
4495 Shop Bldg.
4498 Storage Building
4499 Storage Building

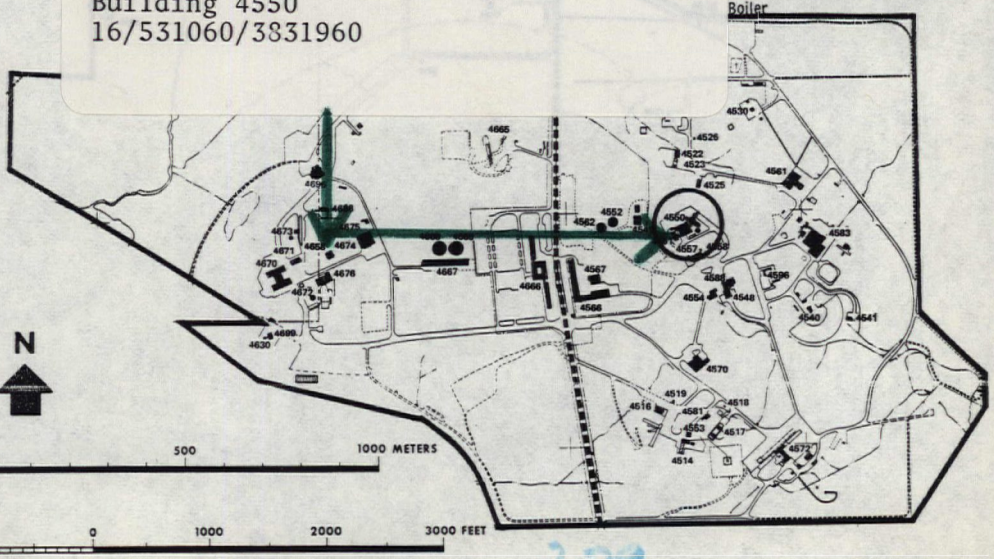
4500 AREA

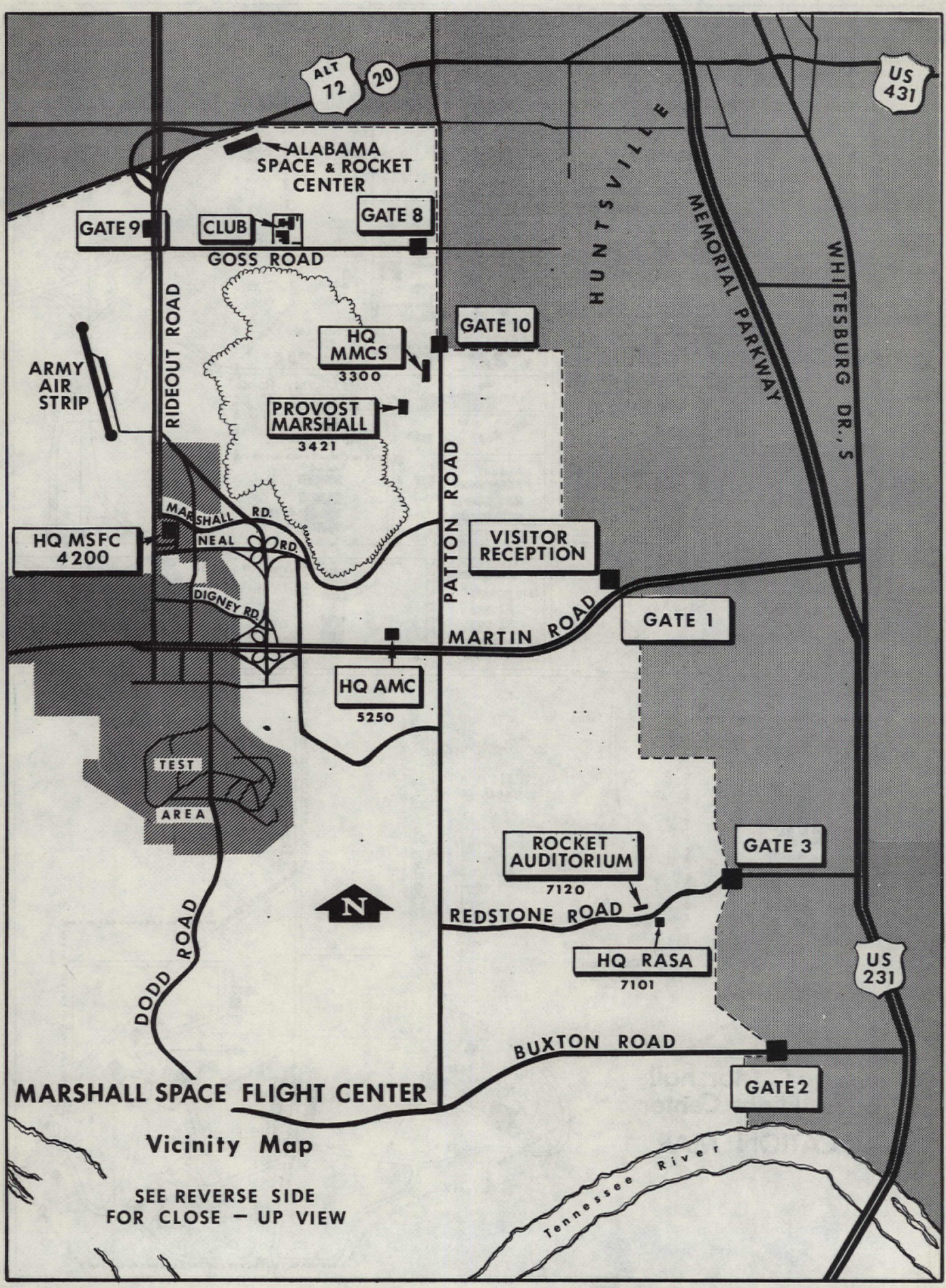
4514 Propulsion Sys. Test Std.
4516 LOX Storage Fac.
4517 LH_2 Storage Facility
4518 Hydrogen Transfer Control House
4519 LOX Transfer Control House
4522 Propulsion Sys. Component Test Std.
4523 Test Stand Terminal Bldg.
4525 LOX Transfer Control House
4526 LH_2 Transfer Control House
4527 LH_2 Storage Tank
4530 Propulsion Sys. Component Test Std.
4540 Model Propulsion Sys. Test (Acoustic)
4541 Test Stand Control Bldg.
4549 Deionized Water Plant
4550 Structural Test Fac.
4551 Struct. Test Fac. Terminal Bldg.
4552 Water Reservoir
4553 Test Fac. Terminal Bldg.
4554 Test Fac. Support Bldg.
4557 Structural Test Fac.
4558 Structural Test Fac. Terminal Bldg.
4561 Shop & Lab Bldg.
4562 Water Reservoir
4566 Office Building (On Loan to Army)
Pump and Boiler House
Blockhouse and Cable Tunnels
Propulsion & Struct. Test Fac.
Test & Data Recording Fac.
Cold Calibration Test Stand
Boiler

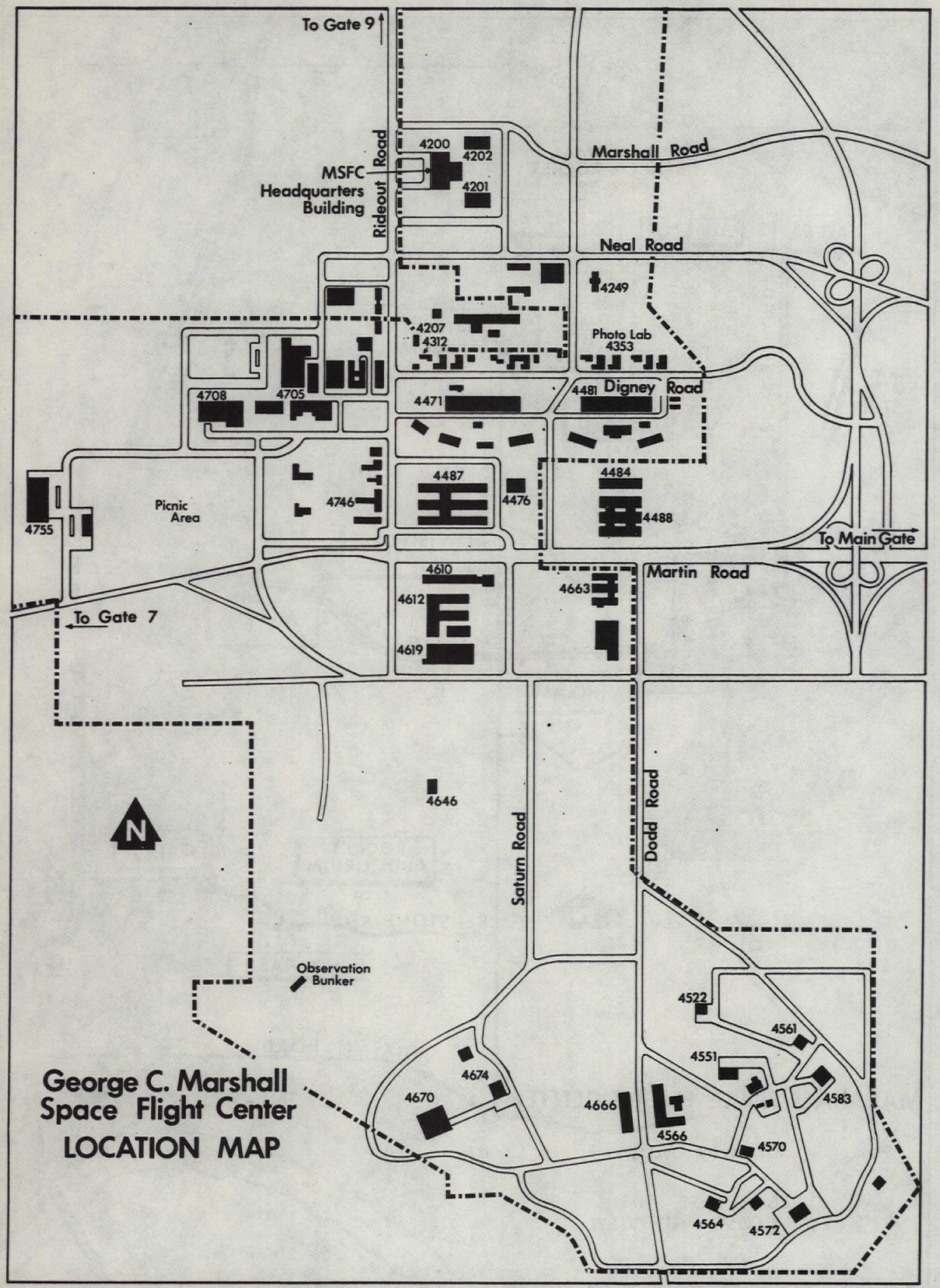
4600 AREA

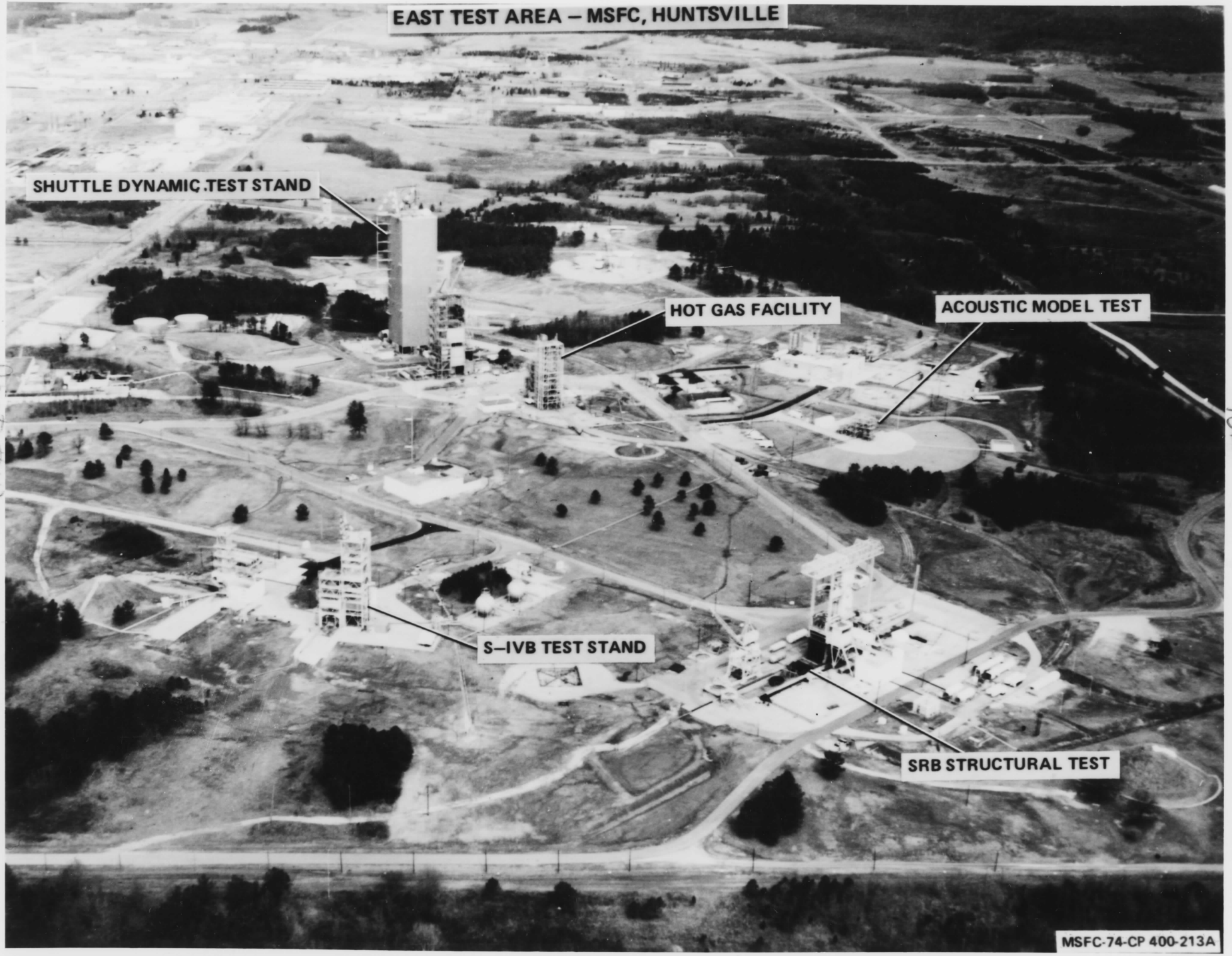
4605 Non-Destructive Evaluation Lab.
4610 Office & Engr. Building
4612 Materials Lab
4613 Compressor Building
4614 Atmospheric Research Bldg.
4618 Hydraulic Test Facility
4619 Structures & Mechanics Lab.
4620 HP Pneumatic Facility
4621 Storage Building
4622 Liquid Hydrogen Fac.
4623 Laboratory Building
4628 Cryogenic Testing Fac.
4638 Support Building
4639 Support Building
4640 Support Building
4641 Support Building
4642 Support Building
4645 Hydraulic Equip. Support Bldg.
4646 Blockhouse
4647 Compressor Bldg.
4648 HP Test Facility
4649 Multipurpose High Bay Fac.
4650 Shop & Calibration Lab
4651 Shop Bldg.
4653 Components Service Bldg.
4654 Office Building
4655 Multipurpose High Bay Fac
4656 Hydraulic Equip. Dev. Fac.
4657 LH2 Vaporization Fac.
4659 HP GN2 Facility
4660 Boiler Plant
4663 Computer Fac.
4665 Historic Redstone Test Site
4666 Office Building
4667 Pump House
4668 Water Reservoir
4669 Water Reservoir
4670 Propulsion & Struct. Test Fac.
4671 Test Facility Support Bldg.
4672 Cryogenics Storage Fac.
4673 Fuel Tank
4674 Blockhouse
4678 Office & Storage Bldg.
4692 Cross-Connect Bldg (Assigned To Army)
4696 Propulsion Test Fac.
4697 Observation Bunker
4699 Structural Test Fac.

Saturn V Dynamic Test Stand
Building 4550
16/531060/3831960




ALT 72
20
US 431
ALABAMA SPACE & ROCKET CENTER
GATE 9
CLUB
GATE 8
GOSS ROAD
HUNTSVILLE
MEMORIAL PARKWAY
WHITESBURG DR., S
RIDEOUT ROAD
GATE 10
HQ MMCS
3300
ARMY AIR STRIP
PROVOST MARSHALL
3421
PATTON ROAD
MARSHALL RD.
NEAL RD.
HQ MSFC
4200
VISITOR RECEPTION
DIGNEY RD.
MARTIN ROAD
GATE 1
HQ AMC
5250
TEST AREA
ROCKET AUDITORIUM
7120
GATE 3
N
REDSTONE ROAD
HQ RASA
7101
US 231
DODD ROAD
BUXTON ROAD
GATE 2
MARSHALL SPACE FLIGHT CENTER
Vicinity Map
SEE REVERSE SIDE
FOR CLOSE – UP VIEW
Tennessee River


To Gate 9
Rideout Road
MSFC
Headquarters
Building
4200
4202
4201
Marshall Road
Neal Road
4249
4207
4312
Photo Lab
4353
Digney Road
4481
4471
4708
4705
4487
4476
4484
4488
4746
4755
Picnic
Area
To Main Gate
Martin Road
4610
4612
4619
4663
To Gate 7
N
4646
Saturn Road
Dodd Road
Observation
Bunker
4522
4561
4551
4583
4674
4670
4666
4566
4570
4564
4572
George C. Marshall
Space Flight Center
LOCATION MAP

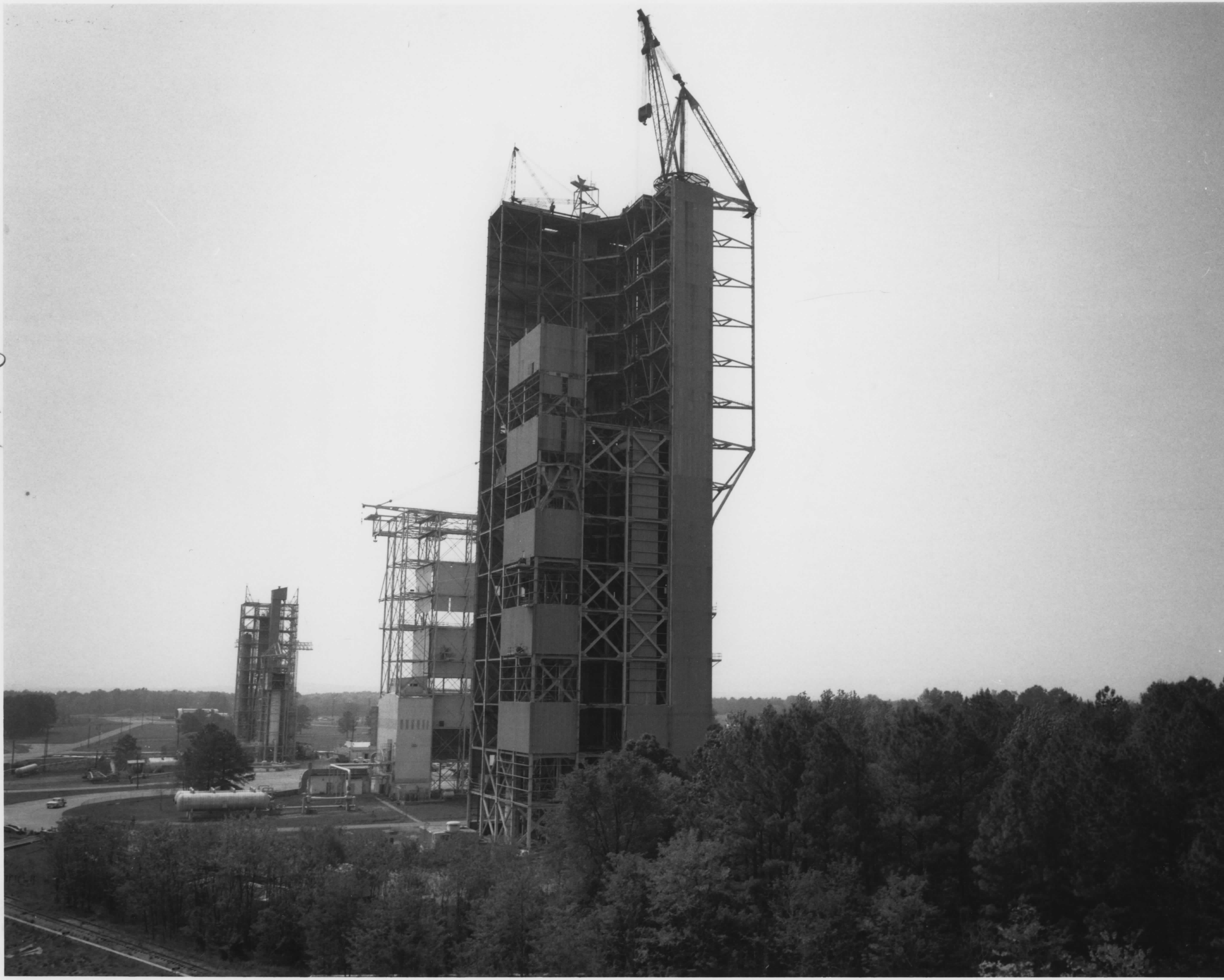

EAST TEST AREA – MSFC, HUNTSVILLE
SHUTTLE DYNAMIC TEST STAND
HOT GAS FACILITY
ACOUSTIC MODEL TEST
S–IVB TEST STAND
SRB STRUCTURAL TEST
MSFC-74-CP 400-213A

233

1. Saturn V Dynamic Test Stand
2. Huntsville, Alabama
3. NASA
4. 1974
5. NASA, Marshall Space Flight Center Facilities Office
6. Aerial View of the East Test Area of the MSFC. Saturn V Dynamic Test Stand (Shuttle Dynamic Test Stand) is in the upper left hand corner.
7. 36

NASA-MSFC

East Test Area Looking North



237

1. Saturn V Dynamic test Stand
2. Huntsville,Alabama
3. NASA
4. 1976
5. NASA, Marshall Space Flight Center Facilities Office
6. Exterior view of Saturn V Dynamic Test Stand in process of being modified for Shuttle use.
7. 38

BLDG 4550 DYNAMIC STAND
IN PROCESS OF BEING MODIFIED FOR
SHUTTLE USE.

NASA- MSFC

TOP

Photo #45

Dynamic Test Fac

239

1. Saturn V Dynamic Test Stand
2. Huntsville, Alabama
3. NASA
4. 1980
5. NASA, Marshall Space Flight Facilities Office
6. External View showing Space Shuttle being hoisted into Test Stand.
7. 39

TOP

Photo #47

992475

BLDG 4550 DYNAMIC TEST STAND

VIEW FROM TOP OF BLDG SHOWING COMPLETE LAUNCH CONFIGURATION OF THE SPACE SHUTTLE.

NASA-MSFC

243

1. Saturn V Dynamic Test Stand
2. Huntsville, Alabama
3. NASA
4. 1978
5. NASA, Marshall Space Flight Center Facilities Office
6. Interior view with Space Shuttle in place
7. 41

Photo A

top

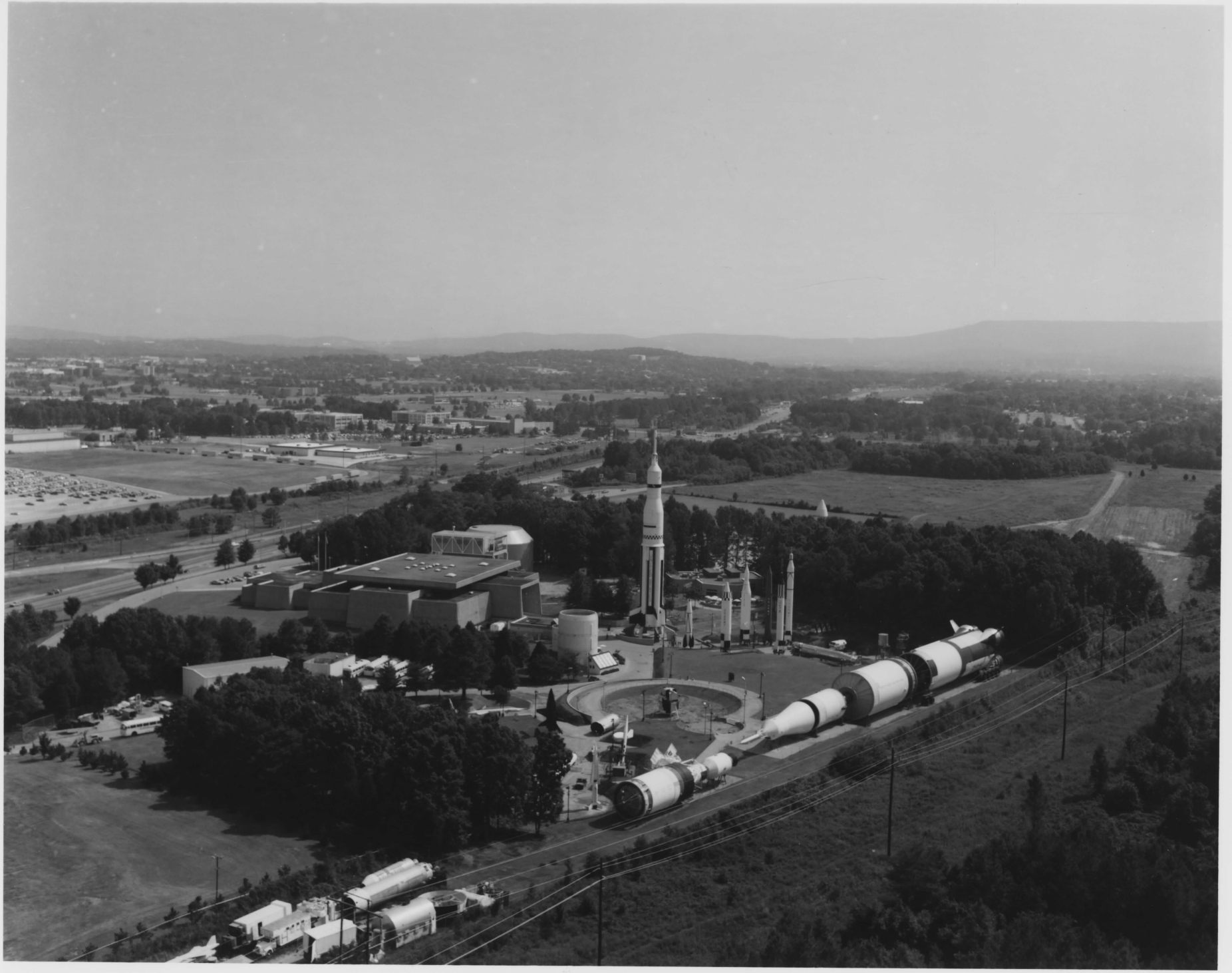
Blog 4550 Dynamic Test Stand

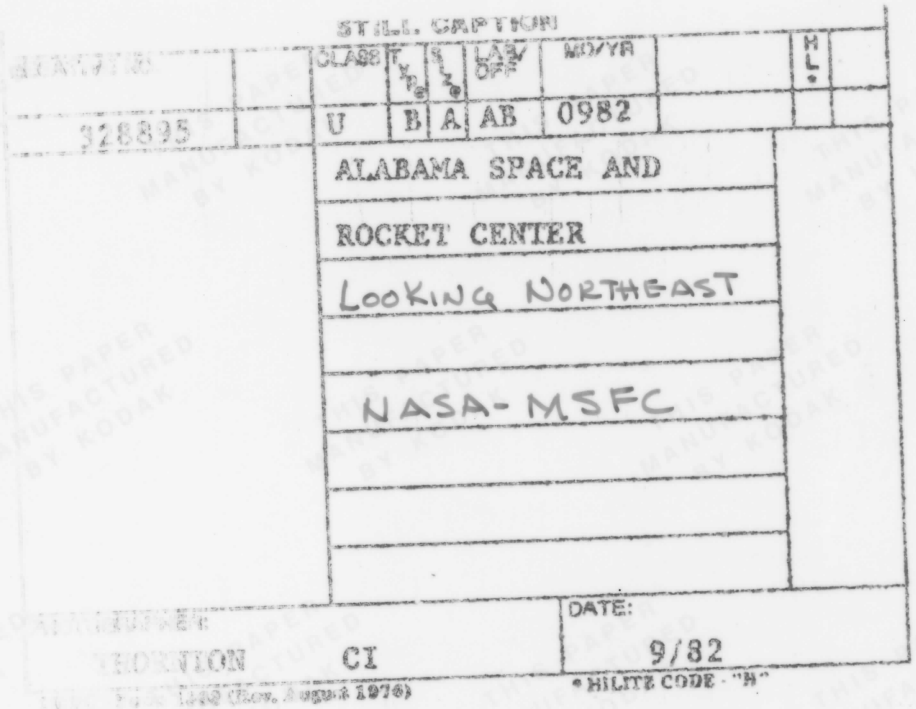
View From Top Of Blog Showing The
work Levels Inside The Empty Stand.

NASA-MSFC

241

1. Saturn V Dynamic Test Stand
2. Huntsville, Alabama
3. NASA
4. 1977
5. NASA, Marshall Space Flight Center Facilities Office
6. Interior view of Test Stand
7. 40





SATURN V DYNAMIC TEST STAND
HUNTSVILLE, ALABAMA

STILL CAPTION

NEGATIVE NO.		CLASS			LAB/OFF	MO/YR			
021656		U	A	A	12	0771			

DESCRIPTION

Advanced Sat Dynamic Test

Fac. Stand #4550.

PHOTOGRAPHER	DATE:
Thornton	7-13-71

MSFC-Form 1363 (REV. May 1969) "HILITE CODE: ALWAYS "H"

BLDG 4550 DYNAMIC STRUCTURAL TEST FAC

PRIOR TO MODIFICATION FOR SHUTTLE USE.

LOOKING WEST.

NASA- MSFC

SATURN V DYNAMIC TEST STAND

HUNTSVILLE, ALABAMA

STILL CAPTION

NEGATIVE NO.		CLASS	TYPE	SIZE	LAB/OFF	MO/YR		HL*	
442251		U	B	Z	AB	4/84			

BLDG. 4550 WEST VIEW
DYNAMIC TEST STAND

PHOTOGRAPHER: CORDER JMC

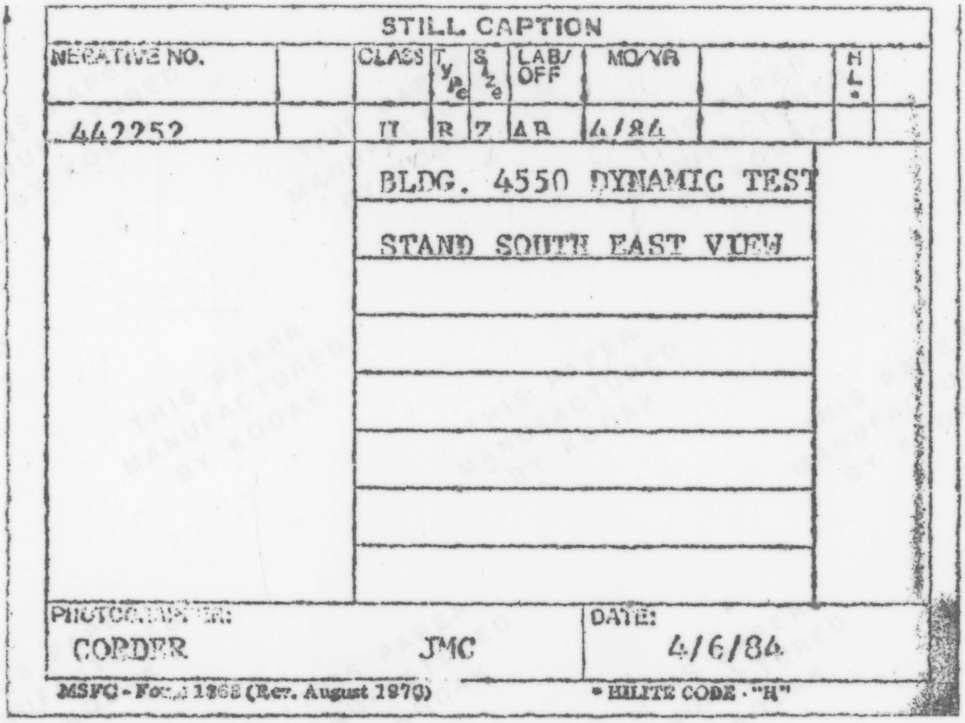
DATE: 4/6/84

MSFC - Form 1300 (Rev. August 1970) * HILITE CODE - "H"

Bldg 4550 Looking Northwest

NASA-MSFC

SATURN V DYNAMIC TEST STAND
HUNTSVILLE, ALABAMA



STILL CAPTION

NEGATIVE NO.		CLASS	Type	Size	LAB/OFF	MO/YR		H L *	
442252		II	B	7	AB	4/84			

BLDG. 4550 DYNAMIC TEST STAND SOUTH EAST VIEW

PHOTOGRAPHER: CORDER JMC

DATE: 4/6/84

MSFC - Form 1968 (Rev. August 1970) * HILITE CODE - "H"

BLDG 4550 LOOKING SOUTHEAST

NASA - MSFC

SATURN V DYNAMIC TEST STAND

HUNTSVILLE, ALABAMA

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
TENNESSEE VALLEY AUTHORITY
MAPPING SERVICES BRANCH

MADISON QUADRANGLE
ALABAMA - MADISON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC) 75-NW

3653 I SW (CAPSHAW 67-SE)

3653 I SE (MERIDIANVILLE 74-SE)

ATHENS 17 MI. 14 MI. TO INTERSTATE 65

0.4 MI. TO U.S. 72

3653 I SW (JEFF 74-SW)

3.6 MI. TO U.S. 231 AND 431
0.6 MI. TO ALABAMA 53

ARDMORE 21 MI.

1.5 MI. TO U.S. 431 AND U.S. 231

1.8 MI. TO U.S. 231

2.1 MI. TO U.S. 72 ALT

DECATUR 14 MI. 9 MI. TO INTERSTATE 65

3653 III NE (GREENBRIER 68-NE)

3653 II NE (HUNTSVILLE 75-NE)

(MASON RIDGE 68-SE) 3653 III SE

(FARLEY 75-SE) 3653 II SE

TRIANA 3.1 MI.

FARLEY 9 MI.

(TRIANA 75-SW) 3653 II SW

Saturn V Dynamic Test Stand
UTM References:
16/531060/3831960

Mapped and edited by Tennessee Valley Authority
Published by the Geological Survey

Control by NOS/NOAA, USGS, and TVA

Revised by TVA in 1975 by photogrammetric methods using aerial photographs taken 1974 and by reference to TVA-USGS quadrangle dated 1964. Map field checked by TVA, 1975

Polyconic projection. 10,000-foot grid ticks based on Alabama coordinate system, east zone. 1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue. 1927 North American Datum To place on the predicted North American Datum 1983 move the projection lines 8 meters south and 1 meter west as shown by dashed corner ticks

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

Red tint indicates areas in which only landmark buildings are shown

MN GN 0° 0°11' 3 MILS

UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Revisions shown in purple and woodland compiled by the Tennessee Valley Authority from aerial photographs taken 1981 and other sources. This information not field checked. Map edited 1982

SCALE 1:24 000

1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
AND BY U.S. TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TENN. 37401 OR KNOXVILLE, TENN. 37902
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ILL. KENTUCKY VA. MO. TENNESSEE N.C. MISS. ALA. GA. S.C.

QUADRANGLE LOCATION

There may be private inholdings within the boundaries of the National or State reservations shown on this map

ROAD CLASSIFICATION (TVA 75-NW)

Primary highway, all weather, hard surface
Secondary highway, all weather, hard surface
Light-duty road, all weather, improved surface
Unimproved road, fair or dry weather
Interstate Route
U. S. Route
State Route

MADISON, ALA.
N3437.5–W8637.5/7.5

1975
PHOTOREVISED 1982
DMA 3653 II NW-SERIES V844

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1982

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

Log #15173

Memorandum

TO: The Secretary

FROM: ACTING DEPUTY Assistant Secretary for Fish and Wildlife and Parks

9/10/85

SUBJECT SUMMARY: Request to Designate as National Historic Landmarks 22 properties in the Man in Space National Historic Landmarks Program Theme Study

DISCUSSION: The National Park System Advisory Board, meeting on May 3, 1985, recommended that the twenty-two properties in the Man in Space theme study named on the attached list be designated as National Historic Landmarks. In accordance with regulations, the Board examined the studies supporting nomination and found that the subject properties meet the criteria of the National Historic Landmarks Program. Except as noted in the attached report on the Advisory Board meeting, the Board voted unanimously to recommend designation of these properties.

Brief descriptions of these properties and comments of interested parties are contained in Appendixes A and C respectively of the attachments. A summary report of the Advisory Board meeting is being prepared and will be transmitted to you when completed. In its absence, actions of the Board relevant to the following recommendations are described here and in the attached "Recommendations of National Historic Landmark Designations by the National Park System Advisory Board ...."

OPTIONS:

1. To designate the 22 properties on the attached list as National Historic Landmarks.

Your Advisory Board found that these properties meet the prescribed criteria and recommended that they be designated National Historic Landmarks. The criteria are the sole legal basis for designation.

2. To designate only those properties whose owners have not objected to designation.

Air Force objections to designation of the two Man in Space properties under its jurisdiction, Space Launch Complex 2W at Vandenberg Air Force Base and Rogers Dry Lake at Edwards Air Force Base have been resolved. Representatives

Prepared by: Laura Feller ext: 343-8167

of the National Park Service and the Air Force have reached mutually acceptable agreements on these two nominations. As a result, we are not requesting designation of SLC 2W at this time, and the Air Force has agreed to support designation of Rogers Dry Lake with a revised boundary.

In a letter of July 22, 1985, the National Aeronautics and Space Administration objected to designation of all properties under its jurisdiction. Those are the remaining Man in Space properties other than Launch Complex 33, which is administered by the Army. (This letter is in Appendix B.) While contending that some of its properties do not meet the Landmarks Program criteria, NASA appears primarily concerned about adverse effects on its operations. I believe that such concerns are unwarranted. In any case they should not influence your decision, which should be guided solely by your determination that the properties either do or do not meet the criteria.

3. To designate none of the 22 properties.

This option, like the partial non-designation option above, would require your finding that the properties do not meet the Landmarks Program criteria.

RECOMMENDATION: In light of the discussion above and the recommendation of your Advisory Board, I recommend that you approve Option 1.

Option 1: Approve Ann McLaughlin Date 10-3-85

Option 2: Approve _____ Date _____

Option 3: Approve _____ Date _____

Attachments

Properties in the Man in Space Theme Study
Recommended for Designation as National Historic Landmarks

1. Variable Density Tunnel (Langley Research Center, Hampton, VA)
2. Full Scale Tunnel (Langley)
3. Eight-Foot High Speed Tunnel (Langley)
4. Unitary Plan Wind Tunnel (Ames Research Center, Moffett Field, CA)
5. Rocket Engine Test Facility (Lewis Research Center, Cleveland, OH)
6. Zero-Gravity Research Facility (Lewis)
7. Spacecraft Propulsion Research Facility (Lewis Plum Brook Operations Division)
8. Redstone Test Stand (George C. Marshall Space Flight Center, AL)
9. Propulsion and Structural Test Facility (Marshall)
10. Rocket Propulsion Test Complex (National Space Technology Laboratories, MS)
11. Saturn V Dynamic Test Stand (Marshall)
12. Launch Complex 33 (US Army White Sands Test Facility, NM)
13. Lunar Landing Research Facility (Langley)
14. Rendezvous Docking Simulator (Langley)
15. Neutral Buoyancy Space Simulator (Marshall)
16. Space Environment Simulation Laboratory (Lyndon B. Johnson Space Center, Houston, TX)
17. Spacecraft Magnetic Test Facility (Goddard Space Flight Center, Greenbelt, MD)
18. Twenty-Five-Foot Space Simulator (Jet Propulsion Laboratory, Pasadena, CA)
19. Pioneer Deep Space Station (Goldstone Deep Space Communications Complex, CA)
20. Space Flight Operations Facility (Jet Propulsion Laboratory)
21. Apollo Mission Control Center (Johnson)
22. Rogers Dry Lake (Edwards Air Force Base, CA)

DEPARTMENT of the INTERIOR
news release

NATIONAL PARK SERVICE

For Release January 8, 1986 Anita Clevenger 202/343-7394

INTERIOR DESIGNATES 22 "MAN IN SPACE" NATIONAL HISTORIC LANDMARKS

Secretary of the Interior Don Hodel today announced that he has designated 22 properties in Alabama, California, Maryland, Mississippi, New Mexico, Ohio, Texas and Virginia, as national historic landmarks representing the early years of the American space program.

"These designations represent the best, most intact and most important examples of the technology which will interpret for future generations the early years of the American space program," Hodel said.

The Interior Department's National Park Service, as directed by Congress (P.L. 96-344), studied approximately 350 sites associated with the early space explorations for preservation and interpretation. "A Man in Space Theme Study" was initiated to consider resources relating to the following general subthemes: technical foundations before 1958; the effort to land a man on the moon; the exploration of the planets and solar system; and the role of scientific and communications satellites.

The Historic Sites Act of 1935 authorizes the Secretary to designate as national historic landmarks properties identified as having significance to the Nation. National historic landmarks are entered in the National Register of Historic Places upon designation.

DOI

(Attached is a list of the 22 national historic landmarks by category.)

For further information contact Dr. Harry Butowsky, Historian, telephone: 202/343-8155.

DESIGNATED NATIONAL HISTORIC LANDMARKS

National Advisory Committee for Aeronautics Wind Tunnels

1. Variable Density Tunnel, Langley Research Center, Hampton, Va.
2. Full Scale Tunnel (Langley)
3. Eight-Foot High Speed Tunnel (Langley)
4. Unitary Plan Wind Tunnel, Ames Research Center, Moffett Field, Calif.

These sites represent the technological base of aeronautical research created by the National Advisory Committee for Aeronautics facilities.

Rocket Engine Development Facilities

5. Rocket Engine Test Facility, Lewis Research Center, Cleveland, Ohio
6. Zero-Gravity Research Facility (Lewis)
7. Spacecraft Propulsion Research Facility (Lewis Plum Brook Operations Division)

These represent the important role of the Lewis Research Center in developing hydrogen as a fuel for the Centaur and Saturn V rockets.

Rocket Engine Test Stands

8. Redstone Test Stand, George C. Marshall Space Flight Center, Huntsville, Ala.
9. Propulsion and Structural Test Facility (Marshall)
10. Rocket Propulsion Test Complex, National Space Technology Laboratories, Bay St. Louis, Miss.

These facilities represent the role of the Marshall Space Flight Center in the building and testing of actual space flight rockets.

Rocket Test Facility

11. Saturn V Dynamic Test Stand, George G. Marshall Space Flight Center, Huntsville, Ala.

This facility illustrates another facet of the building and testing and man-rating of the Saturn V Rocket.

Launch Pads

12. Launch Complex 33, White Sands Test Facility, New Mexico

Launch Complex 33 was designated because of its close association with the testing of the V-2 rocket and the origins of the American Rocket Program.

Apollo Training Facilities

13. Lunar Landing Research Facility, Langley Research Center, Hampton, Va
14. Rendezvous Docking Simulator (Langley)
15. Neutral Buoyancy Space Simulator, George C. Marshall Space Flight Center, Huntsville, Ala.

These facilities were designated because of their association with training programs necessary to prepare American astronauts to land on the moon.

Apollo Hardware Test Facility

16. Space Environment Simulation Laboratory, Lyndon B. Johnson Space Center, Houston, Texas

This Laboratory is important because it was used to man-rate and test the integrity of the Apollo Command and Service Module, Lunar Module, and spacesuits under simulated space conditions here on Earth.

Unmanned Spacecraft Test Facilities

17. Spacecraft Magnetic Test Facility, Goddard Space Flight Center, Greenbelt, Md.
18. Twenty-Five-Foot Space Simulator, Jet Propulsion Laboratory, Pasadena, Calif.

These facilities illustrate the extensive ground support testing facilities needed to accomplish the American unmanned space program--the exploration of the near and deep space environment.

Tracking Stations

19. Pioneer Deep Space Tracking Station, Goldstone Tracking Station, Calif.

The station was the first antenna to support NASA's unmanned exploration of deep space.

Mission Control Centers

20. Space Flight Operations Facility, Jet Propulsion Laboratory, Pasadena, Calif.
21. Apollo Mission Control, Lyndon B. Johnson Space Center, Houston, Texas

These sites are the very heart and soul of both the American Manned and Unmanned Space Programs.

Other Support Facilities

22. Rogers Dry Lake, Edwards Air Force Base, Edwards, Calif.

Although a natural resource, Rogers Dry Lake was designated because of its association with flight testing of advanced aircraft that opened the way to space.

United States Department of the Interior

NATIONAL PARK SERVICE
P.O. BOX 37127
WASHINGTON, D.C. 20013-7127

IN REPLY REFER TO:
H34(418)

AUG 10 1989

Memorandum

To: National Historic Landmark Coordinator, Southeast Regional Office

From: Chief Historian Edwin C. Bearss

Subject: National Historic Landmark Certificates

The certificates listed below are herewith delivered to you for fowarding to the owners. Please advise Jim Charleton, at FTS: 343-8165, of any concerns regarding these items.

Alabama

Redstone Test Stand,
Marshall Space Flight Center
Saturn V Dynamic Test Stand,
Marshall Space Flight Center
Saturn V Launch Vehicle

Arkansas

Bathhouse Row

Georgia

Dixie Coca-Cola Company Bottling Plant
Liberty Hall

Kentucky

Locust Grove

Louisiana

Louisiana State Bank Building
Shreveport Waterworks Pumping Station

Tennessee

Long Island of the Holston
Moccasin Bend Archeological District

Attachments

cc: 001 RF
400 RF
418 Charleton
418 Plaques and Certificates (Subject File)
418 Redstone Test Stand, Marshall Space Flight Center (NHL)
418 Saturn V Dynamic Test Stand, Marshall Space Flight Center (NHL)
418 Saturn V Launch Vehicle (NHL)
418 Bathhouse Row (NHL)
418 Dixie Coca-Cola Company Bottling Plant (NHL)
418 Liberty Hall (NHL)
418 Locust Grove (NHL)
418 Louisiana State Bank Building
418 Shreveport Waterworks Pumping Station (NHL)
418 Long Island of the Holston (NHL)
418 Moccasin Bend Archeological District (NHL)

JCharleton:gmg:8/08/89
waIVI, item 11