NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

NR LIST
AHPP

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

1. Name of Property

Historic Name: Titan II ICBM Launch Complex 374-7 Site

Other Name/Site Number: VB0050

2. Location

Street & Number: West of U.S. 65, 1.7 miles north of intersection with Highway 124

Not for Publication: NA

City/Town: Southside

Vicinity: X

State: AR County: Van Buren Code: 141 Zip Code: 72039

3. Classification

Ownership of Property: Private

Category of Property: Site

Number of Resources within Property:

Contributing	Noncontributing	
__	__	buildings
1	__	sites
__	__	structures
__	__	objects
1	0	Total

Number of contributing resources previously listed in the National Register: NA

Name of related multiple property listing: Titan II ICBM Launch Complex Sites Associated with the 308th Strategic Missile Wing

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this X nomination __ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets __ does not meet the National Register Criteria. __ See continuation sheet.

Signature of certifying official — Date: 12-17-99

Arkansas Historic Preservation Program
State or Federal agency and bureau

In my opinion, the property __ meets __ does not meet the National Register criteria. __ See continuation sheet.

_____ _____
Signature of commenting or other official Date

_____
State or Federal agency and bureau

5. National Park Service Certification

I, hereby certify that this property is:

_ entered in the National Register _____ ____
__ See continuation sheet.
_ determined eligible for the _____ ____
National Register
__ See continuation sheet.
__ determined not eligible for the _____ ____
National Register
__ removed from the National Register _____ ____

__ other (explain): _____

_____ _____ _____
Signature of Keeper Date of Action

6. Function or Use

Historic: Defense Sub: military facility _____ _____
_____ _____

Current : Landscape Sub: meadow _____ _____
_____ _____

7. Description

Architectural Classification:

No style

Materials: foundation _____ roof _____
walls _____ other concrete, metal

Describe present and historic physical appearance:

SUMMARY:

The Titan II ICBM Silo 374-7 Site is an area of approximately 4 acres near Southside in Van Buren County containing a former underground Titan II missile launch complex, including surface concrete site feature pads and earthen mounds reflecting locations of important site features. There are also extensive extant belowground resources from the missile launch complex. The control center air intake shaft is filled with grout, but intact. The access portal is partially filled with rubble and the blast lock doors are tack-welded shut. The three-level launch control center is intact, as are the blast lock areas. Control Center equipment has been removed, but the three-level facility is intact. The launch duct has been demolished to a depth of 30 feet and the launch duct filled with rubble. Mounded earth fill covers the silo and control center/access portal areas. The site retains a high degree of integrity, containing evidence of most of the salient launch complex features as well as the results of site deactivation.

ELABORATION:

The Titan II Missile Silo 374-7 Site is an area of approximately 4 acres near Southside in Van Buren County containing remnants of a former Titan II missile launch complex, including concrete surface site feature pads and earthen mounds reflecting locations of important site features. There are also extensive extant below-ground resources from the missile launch complex. The control center air intake shaft is filled with grout, but intact. The access portal is partially filled with rubble and the blast lock doors are tack-welded shut. The three-level launch control center is intact, as are the blast lock areas. Control Center equipment has been removed, but the three-level facility is intact. The launch duct has been demolished to a depth of 30 feet and the launch duct filled with rubble. Mounded earth fill covers the silo and control center/access portal areas.

The site is located off U.S. Highway 65 1.7 miles north of its intersection with Highway 124, then .3 miles west of U.S. Highway 65 on an unnamed access road that follows in part the site of the original access road built under U.S. Army Corps of Engineers auspices to allow the missile crews access to the site.

The site is largely overgrown and now serves primarily as a cow pasture. It still retains a number of site features that clearly

identify salient parts of the sites characteristics during its service as a nuclear missile silo. The main alterations are inclusion of a new road entering the complex from north of the original entrance (the original road was destroyed by the Air Force when the site was removed from service following the September 20, 1980, missile explosion) and a cut in the ground between the silo mound and the new road that may have resulted from earth moving conducted as part of the silo's destruction.

The site features were documented by comparing them to plot, grading and electrical plan drawings prepared by the Ralph M. Parsons Company of Los Angeles, California, in 1962.

Noteworthy site features include:

1) A large earthen mound toward the east-center area of the site and slightly north of the end of the original access road, the bed of which remains clearly visible. This was the location of the missile launch duct and its associated sliding door.
2) Hardened concrete pads to the northwest and southeast of the silo mound that would have served, respectively, as fuel- and oxidizer-servicing trailer stations.
3) A pair of concrete communications antenna pads due east of the silo mound.
4) A smaller earthen mound southwest of the silo mound that shows the site of the complex control center/access portal.
5) A concrete pad due west of that mound that served as the control center's air intake shaft.
6) A square concrete structure north of the air intake shaft that served as the base for a fixed, aboveground communications antenna.
7) A pair of circular, hardened concrete pads east of the above-mentioned antenna pads that served as the bases for belowground, extendable communications antennas.
8) A square concrete pad north of the above that served as the base for a fixed, aboveground communications antenna.
9) A large, rectangular depression lying to the west of site features 6 and 8 that remains fenced and marked with government warning signs; this was the site of the complex's above-ground UHF antenna.

There are also extensive below-ground resources from the silo facility, including the control center, cableways, blast lock structure, and equipment areas. The air intake shaft is filled with grout, but intact. The access portal is partially filled with rubble and the blast lock doors are tack-welded shut. The launch control center is intact, as are the blast-lock areas. The launch duct has been demolished to a depth of 30 feet as required by the SALT II accords and the remainder filled with rubble. Mounded earth fill covers the silo and control center/access portal areas. While these are not visible from the surface, the U.S. Army Corps of Engineers dismantling plans for the silo complexes called for most of the belowground components to remain intact but inoperable. Thus, a high percentage of the belowground portions of the missile-launch facility are extant.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties: National.

Applicable National Register Criteria: A

Criteria Considerations (Exceptions): G

Areas of Significance: Military

Period(s) of Significance: 1961-1980

Significant Dates: December 18, 1963; September 20-21, 1980

Significant Person(s): NA

Cultural Affiliation: NA

Architect/Builder: U.S. Army Corps of Engineers
Ralph M. Parsons Co., Engineers

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above:

SUMMARY:

The Titan II ICBM Missile Silo 374-7 Site is nationally significant by virtue of its unique and exceptionally important history within the Titan II program: it was the site of a September 1980 accident that severely damaged the launch complex, killed an airman, destroyed the rocket, and brought the safety of the entire Titan II program into question. Its singular history makes it eligible for listing on the National Register of Historic Places under Criterion A with national significance within the historic context *Titan II Launch Complex Sites Associated with the 308th Strategic Missile Wing*. That same history allows it to meet the "exceptional importance" requirements of Criteria Consideration G: Properties That Have Achieved Significance Within the Last Fifty Years.

ELABORATION:

Construction began on 30 January 1961 and the site was placed on alert on 18 December 1963. Launch Complex 374-7 was taken off strategic alert on 21 September 1980 as the result of a catastrophic missile explosion. The headworks were destroyed as a result of this explosion.

Launch Complex 374-7 was involved in two incidents. The first took place on morning of 27 January 1978, at approximately 0915, when the oncoming missile combat crew approaching the launch complex noticed oxidizer vapors rising from the missile complex. They drove to Damascus and contacted the command post, which in turn notified the Missile Potential Hazard Team (MPHT) members. By 0945 the MPHT directed the missile combat crew commander at the complex to turn off the circuit

breakers to the heaters on the oxidizer transport trailers. The heaters were used to keep the oxidizer between 42 and 60 F in preparation for flowing into the holding trailer. Meanwhile, a helicopter from the 37th Air Rescue and Recovery Squadron was sent to provide aerial surveillance of the situation. At 1030 the helicopter crew confirmed the presence of oxidizer vapors rising from the trailer and crossing State Highway 65 in a cloud approximately 3,000 feet long, 300 feet wide and 100 feet in height. The MPHT immediately directed the Van Buren County Sheriff's Department to block Highway 65 and requested evacuation of civilians in the path of the oxidizer cloud, including an elementary school 1.5 miles north of the complex. At 1042 a second helicopter with propellant transfer personnel in rocket fuel handlers clothing outfits was dispatched. Upon arrival at the complex, the team reported that the oxidizer trailer tank was at 101 F and leaking around the manhole cover, the safety rupture discs had not yet burst. They sprayed water on the tank to cool it off and tightened the manhole cover bolts, decreasing the amount of vapor considerably. By 1405 Highway 65 was reopened to traffic. By 2120 the oxidizer had been transferred to the holding trailer and the hazard situation was terminated. Four civilians displayed some symptoms of contact with the vapors and were transported to the Little Rock AFB hospital for evaluation. Two were released the same day and two were held overnight for observation, subsequently released, readmitted and released on 4 February 1978.

The second incident, and the one that makes this launch complex exceptionally significant within the context of the entire Titan II program, took place at 1835 hours 20 September 1980, during a routine Stage II oxidizer tank repressurization procedure. An 8.75 pound socket wrench socket was inadvertently dropped from a work platform in the launch duct on Level 2. After a drop of approximately 66 feet, the socket hit the missile thrust mount and bounced in towards the missile, puncturing the Stage I propellant tank, filled with Aerozine 50, a 1:1 mix of unsymmetrical dimethyl hydrazine and hydrazine. A Missile Potential Hazard Team was formed and the surrounding civilian population evacuated as a precautionary measure. A propellant transfer system team was formed to attempt to penetrate into the launch control center and into the launch duct area.

At 0300 hours on 21 September 1980, the accumulated fuel vapors were ignited, causing an explosion that destroyed the missile silo. The silo closure door, which weighed 740 tons, was thrown several hundred feet upwards and landed 625 feet to the northeast of the silo. The W-53 warhead was found damaged but basically intact without a detectable leakage of radioactive material.

Amazingly enough, only one person was fatally injured: Senior Airman David Livingston, one member of a two-man propellant transfer team investigating the status of the silo just prior to the explosion.

A 40-member Eighth Air Force Mishap Investigation Board and a separate Missile Accident Investigation Board evaluated the accident and concluded that the near-disaster was caused by human error and gave high marks to the silo, which largely contained the massive explosion, and the warhead, which was not blown up by its conventional explosive components. In fact, a partial glass of Coca Cola abandoned in the control center did not spill in the massive explosion, a testament to the facility's shock-absorbent design.

Four days after the accident at Launch Complex 374-7, Secretary of the Air Force Hans Mark announced an independent committee formed to review the Titan II weapons system. They reviewed a seven-month old report on Titan II that had been submitted to the Senate and House Armed Forces Committees regarding the physical condition and maintainability of the Titan II system in addition to the Air Force accident reports. The committee concluded in January 1981 that Titan II remained a reliable system and that the system's on-going safety studies were effectively monitoring the Titan II program. The committee concluded that human, not mechanical, error was at fault in every fatal accident at a Titan II launch complex; the system was reliable, but unforgiving.

The cost to totally replaced the massively damaged Launch Complex 374-7 was estimated at $225,322,670, while demolition and cleanup was expected to cost a mere $20 million. Between October 6-11, 1980, personnel scoured a one-half mile radius around the complex to gather the scattered debris from the explosion, debris ranging from pieces as small as an acorn to as large

as 30 tons. Some 100,000 gallons of water were pumped from the launch duct and neutralized and water wells were tested to determine whether they suffered contamination. None had.

The 308th SMW in mid-1981 held a conference to determine how to seal and make safe the remains of Launch Complex 374-7 in a way that would preserve its integrity should restoration be considered feasible at a later date. Ultimately, the decision was to seal the site with soil, gravel and small concrete debris, allowing access at a later date. Later that year, the decision was made to retire the Titan II program as part of President Reagan's modernization program.

The number and integrity of site features at the Titan II ICBM Missile Silo 374-7 site show that the overall site has a high degree of integrity of location, design, setting, materials, workmanship, feeling and association of the complex's 19-year life span from construction to demobilization. In addition, this site has added historic importance by virtue of the 1980 explosion that took place there, the only such disaster in the history of the Titan II program. As such, it meets the requirements for listing on the National Register of Historic Places under Criterion A within the historic context *Titan II Launch Complex Sites Associated with the 308th Strategic Missile Wing in Arkansas*. Because of its unique place within the nationally significant role the Titan II missile complexes of the 308th SMW played in the nuclear strategies of the Cold War, it also meets the "exceptional importance" requirements of Criteria Consideration G: Properties That Have Achieved Significance Within the Last Fifty Years.

9. Major Bibliographical References

Ballistic Systems Division Management Data System Titan Master Schedule, March 1965." Air Force Historical Research Agency, Maxwell AFB, Alabama. This document is classified SECRET. The information used is unclassified.

"Titan Deactivation Program, Little Rock AFB, Arkansas." Headquarters, Strategic Air Command, Maintenance Directorate. Titan Missile Museum Archives, Sahuarita, Arizona.

"Histories of the 308th Strategic Missile Wing, 1963-1987," Air Force Historical Research Agency, Maxwell AFB, Alabama. These documents are classified SECRET. The information used is declassified.

Stumpf, David K. "Titan II: A History of a Cold War Missile Program," Fayetteville, AR: University of Arkansas Press, 2000.

Previous documentation on file (NPS):

_ preliminary determination of individual listing (36 CFR 67) has been requested.
_ previously listed in the National Register
_ previously determined eligible by the National Register
_ designated a National Historic Landmark
_ recorded by Historic American Buildings Survey # _____
_ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

x State historic preservation office
_ Other state agency
_ Federal agency
_ Local government
_ University
_ Other -- Specify Repository: _____

10. Geographical Data

Acreage of Property: Four

UTM References: Zone Easting Northing Zone Easting Northing

A 15 592400 392400 B _ ___ ___
C _ ___ ___ D _ ___ ___

Verbal Boundary Description:

Beginning at a point .3 miles due west of a point on U.S. Highway 65 1.7 miles north of its intersection with State Road 124 proceed due west 840 feet, thence due south along a perpendicular line for 840 feet, thence due east 840 feet along a perpendicular line, thence due north for 840 feet along a perpendicular line to the point of beginning

Boundary Justification:

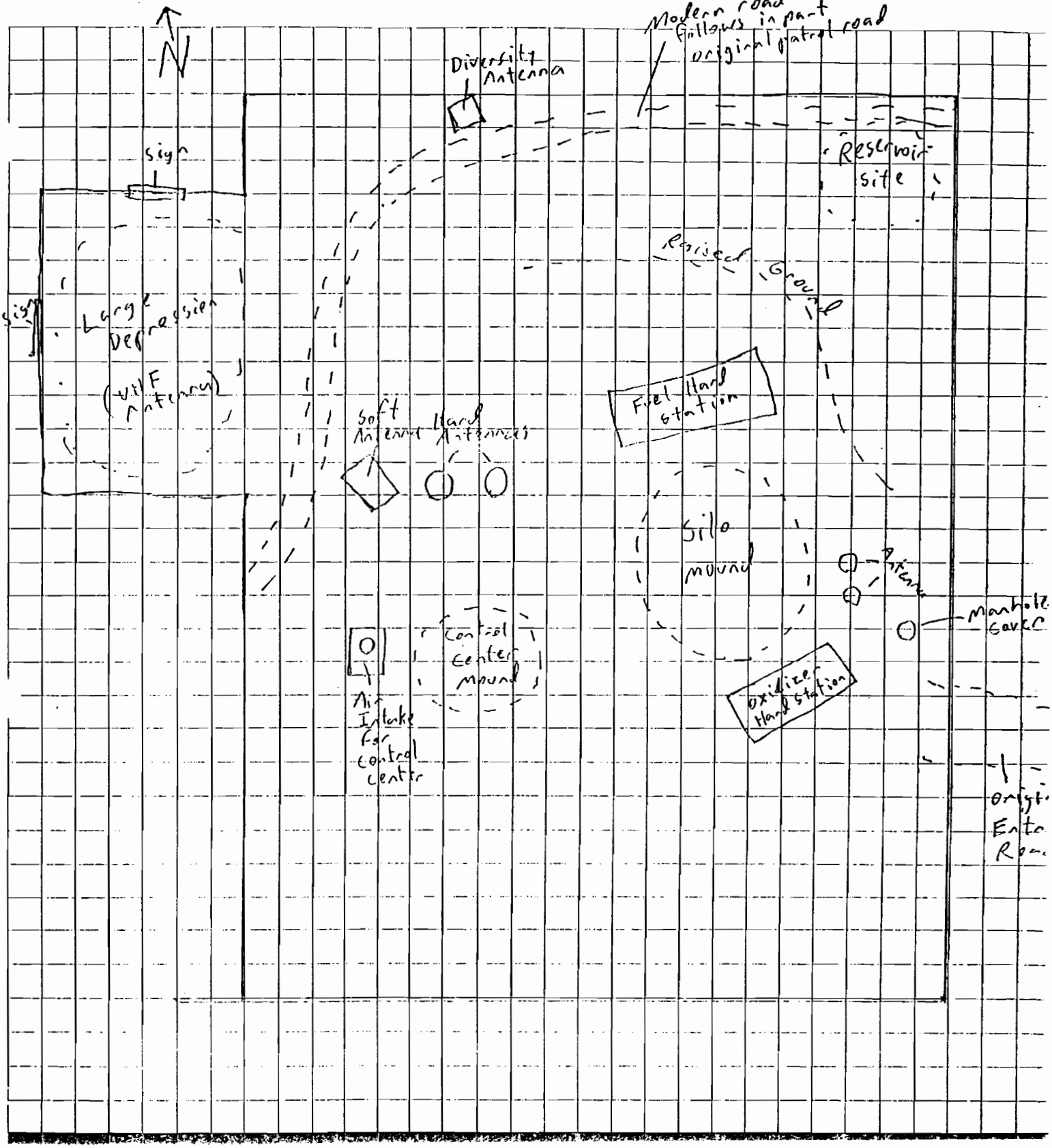
This boundary contains all of the above- and belowground resources within the four-acre site containing this nuclear missile launch complex that retain their integrity.

11. Form Prepared By

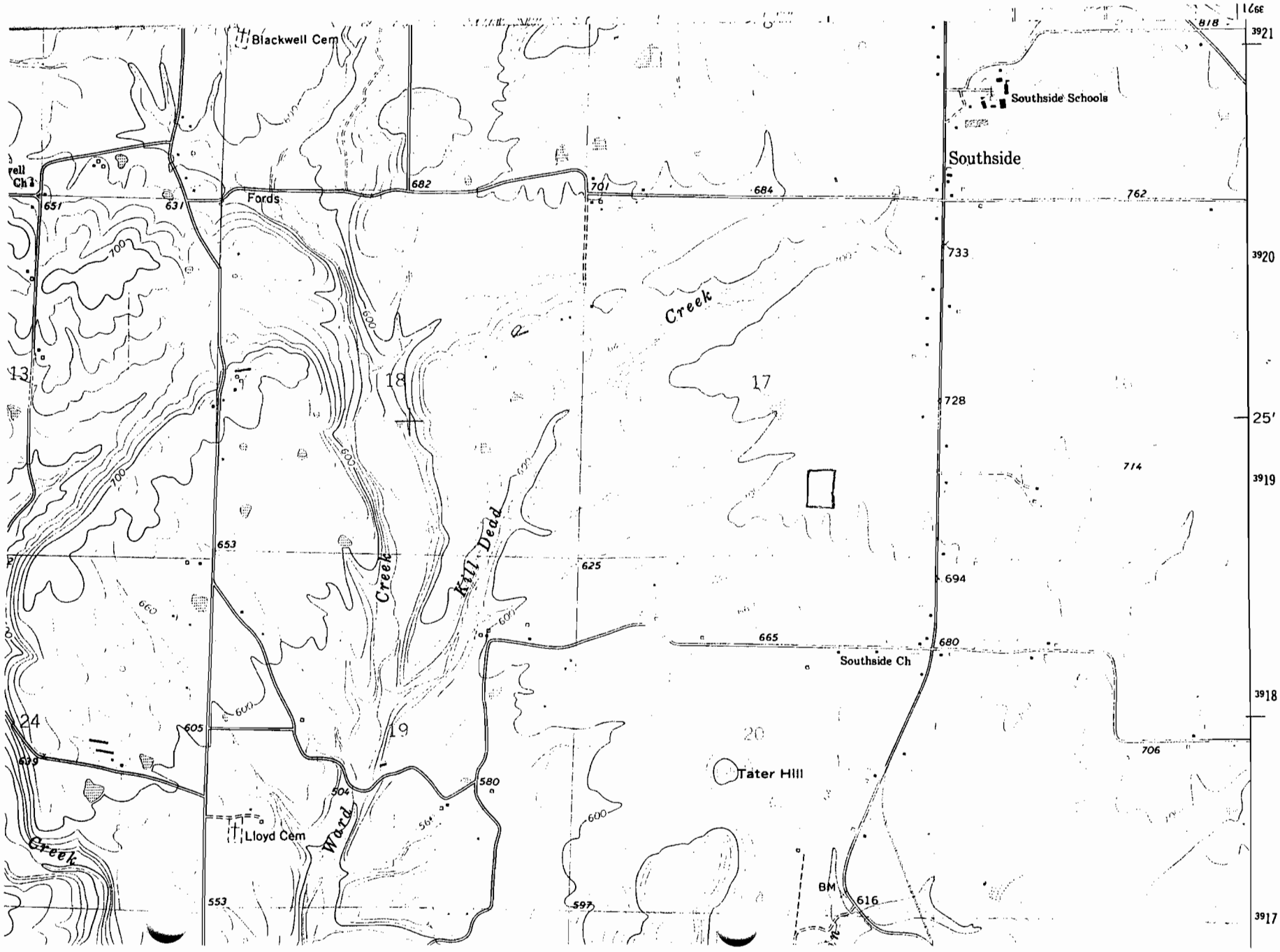
Name/Title: Mark Christ, Community Outreach Director/Dr. David Stumpf, contract researcher

Organization: Arkansas Historic Preservation Program Date: 12-17-99

Street & Number: 1500 Tower Bldg., 323 Center St. Telephone:(501) 324-9880
City or Town: Little Rock State: AR ZIP: 72201



SKETCH MAP
Titan II ICBM Launch Complex 374-7 Site
Southside vic., Van Buren Co., AR


Blackwell Cem
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Southside
Fords
Creek
Kill Dead
Creek
Southside Ch
Tater Hill
Lloyd Cem
Ward
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