State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

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October 12, 2023

VIA Email

In reply, refer to: NASA_2023_0913_001

Mr. Jonathan Ikan
Center Cultural Resources Manager
NASA Ames Research Center
Mail Stop 213-8
Moffett Field, CA 94035

Subject: Roverscape Freezer Project, NASA Ames Research Center, Moffett Field, Santa Clara County, California

Dear Mr. Ikan:

The California State Historic Preservation Officer (SHPO) has received the September 13, 2023, letter initiating consultation regarding an undertaking at NASA Ames Research Center (ARC). NASA is consulting with the State Historic Preservation Officer (SHPO) to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. §306108), as amended, and its implementing regulations at 36 CFR Part 800. Along with the letter, NASA submitted a memorandum containing Section 106 analysis prepared by AECOM and dated August 31, 2023.

The proposed undertaking, as described, involves construction of a small (approximately 4’ diameter) subsurface liquid nitrogen freezer assembly that will be used to freeze soil to test the drilling capabilities of lunar rovers, and will be located directly south of existing Building T40-A. No alterations to existing structures are proposed. The freezer assembly will be connected to liquid nitrogen tanks, electricity, and a vent pipe. A 10’ long by 5’ wide by 1’ thick concrete pad will be constructed at the southwest corner of existing building T40-A, to house liquid nitrogen tanks for the operation of the Roverscape freezer. A precast concrete trench will extend south from the pad and building T40-A, to provide liquid nitrogen and electricity to the subsurface freezer assembly. The trench will be excavated approximately 17’ long by 2.5’ wide, and extend up to 2’ deep, including imported base gravel to support the precast concrete trench. The subsurface freezer will consist of a preconstructed assembly installed in an approximately 4’ diameter hole, which will be excavated a maximum of approximately 3.5’ deep. A breather pipe and vent cap will be installed to vent the freezer assembly. The pipe will be installed in an approximately 13’ long by 6” wide by 2’ deep trench extending south from the freezer assembly.

NASA identified an Area of Potential Effects (APE) for the undertaking that is in a currently undeveloped area directly south of Building T40-A. Below grade activities include limited grading for the tank slab, installation of the precast conduit trench, the subsurface freezer assembly, and breather/vent pipe. These areas are included in vertical APE of approximately 4' maximum depth.

NASA reviewed the 2017 archaeological baseline investigation and found that the undertaking would occur in an area of low archaeological sensitivity. AECOM Senior Archaeologist, Jay Rehor, conducted a site visit on August 17, 2023. All exposed ground surface was inspected for evidence of archaeological resources. No evidence of archaeological resources was observed during the pedestrian surface survey. To address the potential for buried archaeological resources, not visible at the surface, three hand augers were excavated within the APE for the undertaking. No evidence of archaeological resources was encountered in any of the auger units.

The only built environment resource in the APE, Building T40-A, is a small modular prefabricated building constructed in 2013 within the largely undeveloped Roverscape Robotics Research Development and Test Facility. Given its age and utilitarian prefabricated construction, the building does have any historical or architectural significance and is not eligible for the NRHP. Based upon this information and analysis, NASA proposes a Finding of No Historic Properties Affected. After reviewing the information submitted, the SHPO offers the following comments.

- This project qualifies as an undertaking with the potential to affect historic properties.
- The APE is sufficient to take direct and indirect effects of the undertaking into account.
- Identification and evaluation efforts are sufficient for this consultation.
- The SHPO has no objection to the proposed Finding of No Historic Properties Affected.
- Please be advised that under certain circumstances, such as unanticipated discovery or a change in project description, NASA may have additional future responsibilities for this undertaking under 36 CFR Part 800.

If there are any questions or concerns, please contact State Historian Mark Beason, at (916) 445-7047 or mark.beason@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer