

Memorandum

To: Jonathan Ikan, Cultural Resources Manager, NASA Ames Research Center
Subject: Section 106 Consultation on the Building N200 Elevator Replacement Project, NASA Ames Research Center, Moffett Field, Santa Clara County, California
From: Trina Meiser, Senior Architectural Historian
Date: August 8, 2024

1. Introduction

The National Aeronautics and Space Administration (NASA) Ames Research Center (ARC) proposes the Building N200 Elevator Replacement Project (project or undertaking) at NASA ARC, Moffett Field, Santa Clara County, California. As the lead federal agency, NASA is responsible for compliance with Section 106 of the National Historic Preservation Act of 1966 (54 United States Code §306108), as amended, which requires federal agencies to take into account the effects of their activities and programs on historic properties, and its implementing regulations in 36 Code of Federal Regulations (CFR) Part 800. The purpose of this memorandum is to provide necessary information for compliance with Section 106, including a description of the undertaking and the Area of Potential Effects (APE), the methodology used to identify and evaluate historic properties within the APE, a description of the affected historic properties, and an assessment of potential effects resulting from the undertaking.

1.1 Project Location

Building N200 is located at the center of Bush Circle on the NASA Ames Campus at NASA ARC, Moffett Field, Santa Clara County, California (see Figures 1 and 2 in Appendix A). The building is individually listed in the National Register of Historic Places (NRHP) and is also within the proposed National Advisory Committee for Aeronautics Ames Historic District (NACA District), which is potentially eligible for listing in the NRHP.

1.2 Project Personnel

This study was conducted by cultural resources professionals who meet the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61; 48 Federal Register 44738). Trina Meiser, M.A., Senior Architectural Historian, served as the Principal Investigator and prepared this report.

2. Description of the Undertaking

The project scope of work includes replacement of the existing single-car hydraulic elevator with a new hydraulic elevator system. The new elevator will be installed within the existing, exterior, poured-in-place, concrete elevator shaft, and the existing elevator pit and concrete roof will remain.

The architectural scope of work includes demolition of all existing hydraulic elevator components, including but not limited to the remote pump, hydraulic piston, guide rails, elevator doors, door frames, thresholds at first and second floor landings, elevator car, and all electrical controls and equipment related to the elevator system at the interior of the elevator shaft, interior of elevator car, at each landing, and in the remote pump room. Security card readers at each landing will be removed. If existing conduit is inadequate for new system, it will also be removed and replaced, as required.

The new elevator system will include a new car door operator, power unit, piston refurbishment, landing doors replacement, guide rails within the elevator shaft, an elevator car and car doors with standard finishes and lighting including emergency communication system, exterior-rated controls within the shaft and car, exterior-rated call buttons at each landing, and elevator doors with actuation equipment at each landing including thresholds and door frames. Finishes will be high performance paint suitable for exterior exposure. Non-proprietary software will be used for elevator system.

3. Area of Potential Effects

The APE is defined to address both direct and indirect impacts on known and potential historic properties and encompasses areas that may be affected by both temporary and permanent construction activities (see Figure 3 in Appendix A). The APE is within the preliminary boundaries of the NACA District and accounts for potential indirect effects on the district but does not include the entire district due to the project's limited scale. Exterior improvements, which include changes to the elevator doors, thresholds, and equipment, are unlikely to have indirect visual, audible, or atmospheric impacts on historic properties beyond Building N200's immediate surroundings. The project will be limited to the existing detached elevator shaft and no ground disturbance is anticipated. Therefore, the APE is limited to the project site and Building N200.

4. Identification of Historic Properties

Historic properties are defined as any district, site, building, structure, or object that is included in, or is eligible for listing in, the NRHP. The APE has been previously surveyed for architectural resources that have been evaluated for NRHP eligibility. The following sections address the methodology and efforts to identify historic properties in the APE. The project does not include ground disturbance; therefore, archaeological resources are not addressed.

4.1 Architectural Resources

4.1.1 Previous Studies

Previous efforts to identify historic properties in the APE include the NRHP nomination for Building N200 and a historic resource evaluation of the potential NACA District. Table 1 lists relevant evaluation efforts in previous surveys at ARC.

Table 1. Previous Built Environment Studies in the APE

Date	Author	Title	Findings
2007	Architectural Resources Group, Inc. (ARG)	Building N-200 Reuse Guidelines, NASA Ames Research Center, California	Reuse guidelines developed for Building N200, including identification of character-defining features and opportunities for reuse.
2017	AECOM	<i>National Register Nomination for the Ames Administration Building</i>	Building N200 recommended individually eligible for NRHP under Criteria A and B.
2022	AECOM	<i>Section 106 Technical Memorandum for the Building N204A Window Replacement Project</i>	Evaluated potential NACA District based on common historical and architectural themes; Building N200 was identified as a district contributor.

4.1.1.1 Building N-200 Reuse Guidelines, NASA Ames Research Center (ARG 2007)

In 2007, ARG developed reuse guidelines for Building N200 to assist NASA ARC staff, tenants, and consultants in planning for the rehabilitation of the building (ARG 2007). The document identified the significant and contributing character-defining features of Building N200 and directed that those features should be considered prior to its reuse. The building's character-defining and contributing features, include, but are not limited to, its smooth concrete exterior with control joints, ornamental striping in the parapet, ornamental concentric square banding over doors, a covered passage with columns between Buildings N200 and N201, and its fenestration patterns and materials. The reuse guidelines also identified non-contributing features, defined as elements of the building that have been remodeled or areas where additional alteration would not affect the original integrity of the building, and specified the converted door opening with detached elevator on north elevation as non-contributing. ARG concluded that changes to non-contributing features may be undertaken, but impacts to the character-defining and contributing features should be in keeping with the building's original design, configuration, and material. These reuse guidelines were consulted for the design of the current undertaking and are accessible online at: https://historicproperties.arc.nasa.gov/map_reuse/reuse_forms/200_reuse.pdf.

4.1.1.2 National Register Nomination for the Ames Administration Building (AECOM 2017)

In 2017, AECOM prepared a NRHP nomination form for Building N200, "Ames Administration Building." The nomination found it individually eligible for the NRHP under Criterion A for its contributions in the area of science for its association with the administration of research and development at Ames, a key research facility that made strides in the fields of aeronautics, aeronautical theory, and space exploration through applied research. It

is also significant under NRHP Criterion B for its association with Smith J. DeFrance and his 25-year tenure as the de facto figurehead of Ames. DeFrance as the First Engineer-in-Charge for the initial development of the research facility, and then served as the first Director of the NACA aeronautical laboratory through its transition into a NASA research center. DeFrance's offices were located in Building N200, and from there he led Ames, making Building N200 the best representation of his long and contributory career at Ames. The nomination stated that the building had a high degree of integrity but did not identify the building's character-defining features. Building N200 was listed in the NRHP on January 11, 2017. The NRHP nomination is accessible online at: https://historicproperties.arc.nasa.gov/downloads/summary/nrhp_n200_20161101.pdf.

4.1.1.3 Section 106 Technical Memorandum for the Building 204A Window Replacement Project (AECOM 2022)

In 2022, AECOM conducted a study for NASA ARC's Building N204A Window Replacement Project. The study included a survey and evaluation for a potential historic district and identified the potential NACA District. NASA ARC consulted with the SHPO on the project (see OHP NASA_2021_0525_001), but concurrence on the potential NACA District is pending further evaluation. This study assumes that the potential NACA District is eligible for the NRHP. For further information about the district, see Section 5.1 below.

5. Affected Historic Properties

5.1 NACA District

The NACA District includes 14 potential contributors. All 14 potential contributors, including Building N200, were identified based on their thematic Moderne architectural features and place in the development of the NACA Ames Aeronautical Laboratory. Developed between 1939 and 1955, the NACA District is significant under NRHP Criterion A for its association with the development of the second NACA aeronautical laboratory (the first on the West Coast) in anticipation of World War II and continued post-war research and under NRHP Criterion B for its association with Smith J. DeFrance, Engineer-in-Charge/Director, and John F. Parsons as Construction Lead/Assistant Director, who designed the campus. The district is also significant under NRHP Criterion C for exemplifying the Moderne architectural style used on early NACA-era campuses as part of a building campaign to express modernity with an economic design, and for its representation as a significant and distinguishable entity whose components may lack individual distinction. The period of significance for the NACA District begins in 1939 with the establishment of the NACA Ames Aeronautical Laboratory and ends in 1955 with the shift towards early space research projects and the construction of the last building utilizing Streamline Moderne architecture during the NACA period. Overall, the NACA District retains sufficient historic integrity to physically convey its historic significance.

5.2 Building N200

Building N200 was constructed in 1943 and is a two-story, Streamline Moderne-style office and administration building with a basement (Photograph 1). It is located in the center of Bush Circle and has a south-facing orientation and a rectangular plan. The building features a flat roof with a slight parapet and no overhang, concrete walls, and a concrete foundation. The building's massing is simple and is composed of a rectilinear block with a central entry projection on the south façade. This projection is divided into three bays and contains stone lettering that reads "AMES RESEARCH CENTER" just below the roofline. The entry has concrete steps flanked by fluted concrete planters, a pair of glazed aluminum doors with fixed aluminum three-light windows on either side, and steel sash casement four-light windows at the second level. Concrete panels are located above the first-floor doors and windows and are patterned with concentric squares. On the exterior walls, the concrete finish is scored and has a water table at the base. Below the roofline are a set of four speedlines, which wrap around the entire building. Fenestration along the building wings is arranged symmetrically and consists of either six- or eight-light steel sash windows with an operable hopper window in the lower sash or glass block windows. The north elevation contains another set of glazed aluminum doors, a detached exterior elevator (constructed circa 1983) (Figure 4; Photographs 2 and 3), staircase, and accessibility ramp (constructed in 2006), and concrete canopy that connects to Building N201 (see Photograph 2).



Photograph 1. Building N200 façade, view facing northeast

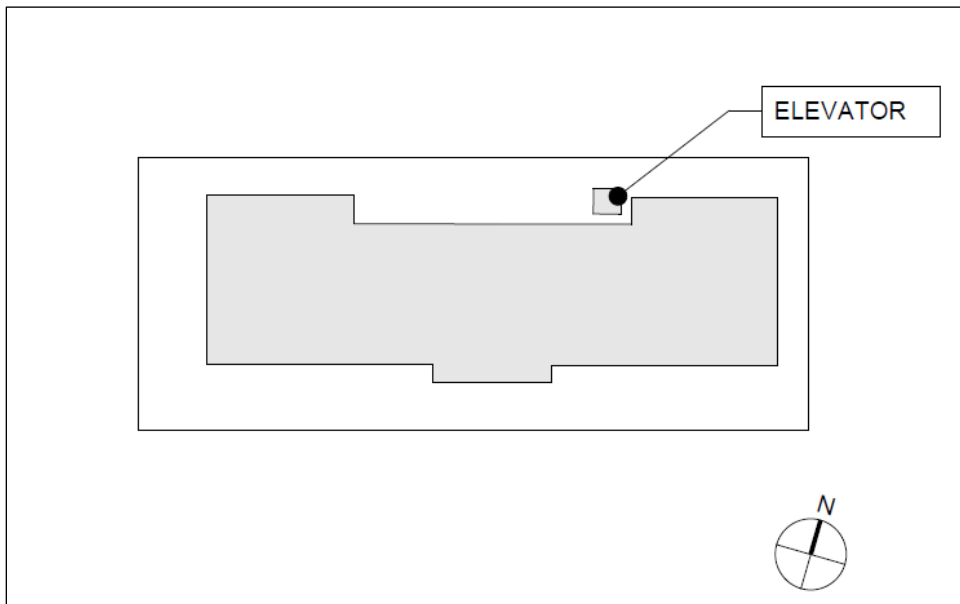


Figure 4. Elevator location at rear of Building N200



Photograph 2. Building N200 (rear) on left, exterior elevator shaft and staircase at center, and Building N201 at right, view facing southwest



Photograph 3. Building N200 (rear), exterior elevator shaft and staircase, view facing southeast



Photograph 4. Exterior elevator door and equipment on first floor, view facing northeast

By the early 1970s, Building N200 had been altered several times as part of a broad rehabilitation program implemented at the Ames facility. The modifications specific to Building N200 were split into six separate jobs to allow the building to be used while construction took place inside. The largest project involved major changes to the building's first floor and basement, which were upgraded to house ARC's communication functions. The project cost \$250,000 and was completed in approximately 1972. An additional modification project consisted of changes designed to provide integrated space for each of ARC's directorates and for several of the Director's staff offices. This project was completed in approximately 1974, and upon completion of construction, the cost of the Administration Building modification projects totaled approximately \$500,000.

Building N200 continues to function as the Administration Building and is listed in the NRHP under Criterion A for its association with the administration of research and development at Ames and under Criterion B for its association with Smith J. DeFrance. Building N200 is also a contributor to the NRHP-eligible NACA District.

Significant and contributing character-defining features of Building N200 were identified by ARG in 2007 in *Building N-200 Reuse Guidelines, NASA Ames Research Center, California*. ARG defined *Significant Character-Defining Features* as "features that convey the building's historic character and significance. Alteration or removal of these features could result in a loss of integrity and should be avoided" (ARG 2007:10). More details specific to this building are included in the Reuse Guidelines, accessible online at: https://historicproperties.arc.nasa.gov/map_reuse/reuse_forms/200_reuse.pdf.

Significant Character-Defining Features

- Smooth concrete surface articulated with grid of control joints.
- Concrete planters.
- Ornamental striping (parapet).

- Simplified buttresses/fin walls flanking doors.
- Ornamental concentric square banding (over doors).
- Covered passage with columns between N-200 and N-201.
- Granite entrance stairs and blocks under planters.
- Wood sash awning windows in basement window openings.

ARG also defined *Contributing Features* as “important elements that contribute to the understanding of the original design. Alteration or removal of these features may be necessary for programmatic or building system requirements. However, removal should be minimized and where necessary mitigated” (ARG 2007: 10-11).

Contributing Features

- Multi-lite metal sash windows with operable hopper segments, replacement material in keeping with the historical appearance of the original sash.
- Multi-lite metal sash windows with operable casement segments at ground floor and second floor at center bay.
- Metal doors and frame.
- Single-lite transom.
- Rectangular overflows (east elevation).
- Corridor configuration.

The reuse guidelines also identified *Non-Contributing Features*, “elements of the building that have been remodeled or areas where additional alteration would not affect the original integrity of the building” (ARG 2007: 12-13).

Non-Contributing Features

- One converted door opening with detached elevator on north elevation.
- Metal door and frame with storefront windows on north elevation.
- New [Americans with Disabilities Act (ADA)] elevator and ramp.
- Interior finishes in the following spaces: Lobby; First floor bathrooms, and stairs; Second floor bathrooms and committee room; and offices, including basement offices.

The converted door in the second story of the north elevation leads to a covered walkway to the exterior detached elevator shaft, which was constructed circa 1983 (see Photograph 3). The square plan, poured-in-place concrete shaft has a smooth finish and scored horizontal lines that mimic the exterior finish treatment on the main building. The detached elevator addition is not yet 50 years old and has not acquired any significance in its own right and remains a non-contributing feature of Building N200.

6. Assessment of Effects

The Criteria of Adverse Effect pursuant to 36 CFR 800.5(a)(1) are applied to assess effects of the undertaking on historic properties within the APE:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

The detached elevator addition is not a characteristic of the historic property that qualifies it for NRHP inclusion. The project will remove and replace all existing hydraulic elevator components, which are non-contributing,

mostly interior, and invisible from the exterior of Building N200 and the NACA District. The alterations to the exterior of the elevator, including replacement of the elevator landing doors, thresholds, door frames, and other equipment such as security card readers, conduit, exterior-rated call buttons, and actuation equipment. Finishes will be high performance paint suitable for exterior exposure. The exterior changes to the detached elevator addition are essentially in-kind and will face the north elevation of Building N200; any visibility of these changes will be minimal. The project will not alter any of the characteristics of Building N200 or the NACA District that qualify them for NRHP inclusion and will not result in adverse effects.

7. Summary of Findings

The Criteria of Adverse Effect were applied to assess the undertaking's potential effects on the historic properties in the APE, Building N200 and the NACA District. The significance of these historic properties is associated with research and development, important researchers, and a unified Streamline Moderne-style campus design. This assessment of effects found that the project will not impact historic materials or any of the contributing features of Building N200 and will not diminish its integrity. Alterations to the detached elevator addition will not be visible within the NACA District. The project will not diminish the integrity of Building N200 or the NACA District. Therefore, the project would not result in an adverse effect on Building N200 or the NACA District, as a whole; the proposed undertaking would have no adverse effects on historic properties per 36 CFR § 800.5(b) and a finding of No Adverse Effect is recommended.

8. References

AECOM, 2017. *National Register Nomination for the Ames Administration Building*. On file at ARC.

AECOM, 2022. *Section 106 Technical Memorandum for the Building N204A Window Replacement Project*. On file at ARC.

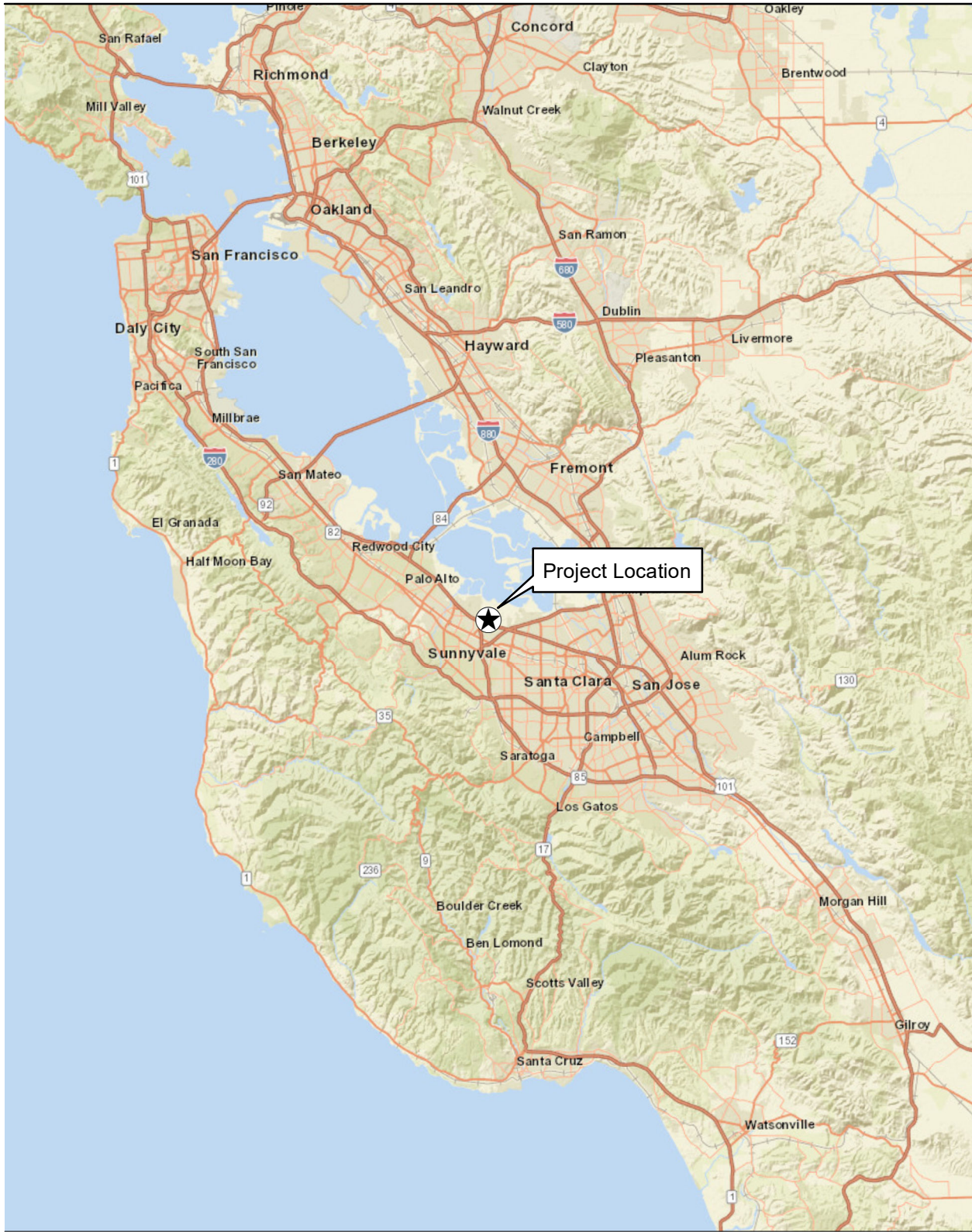
Architectural Resources Group, Inc. (ARG), 2007. *Building N-200 Reuse Guidelines, NASA Ames Research Center, California*. On file at ARC.

Appendices

A. Figures

Appendix A

Figures



Source: ESRI, AECOM, NASA

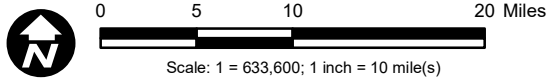
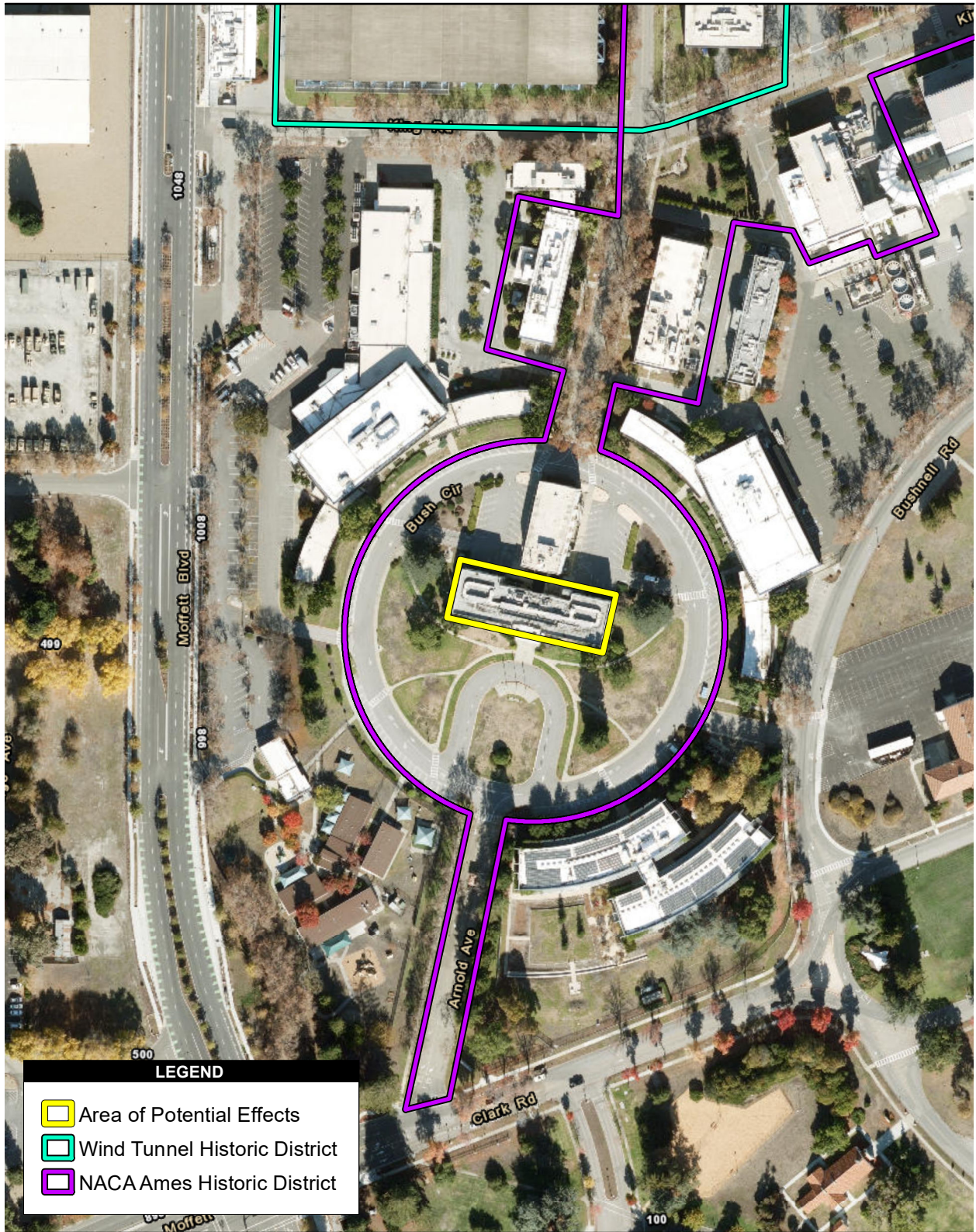


Figure 1
Project Location



Figure 2
Project Vicinity Map



Source: ESRI, AECOM, NASA



Figure 3
APE Map