



# Memo

Date: September 26, 2018

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Project: Moffett Field, Driving Range Fence Removal and Net Installation, Section 106

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To: Marisela Rocha, Nihal Oztek; CBRE

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From: Jeanne Barnes, HDR

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Subject: Section 106 Memo

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## Introduction

The purpose of this memorandum is to provide necessary information for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 United States Code [USC] 300101 et seq.), and its implementing regulations at 36 Code of Federal Regulations (CFR) Part 800. This includes the identification of historic properties within the Area of Potential Effects (APE) and the application of the Criteria of Adverse Effects for the proposed removal and replacement of the existing driving range fencing at the Golf Club at Moffett Field, located at the National Aeronautics and Space Administration (NASA) Ames Research Center (ARC) in Santa Clara, California. Portions of the site now called ARC were previously known as Naval Air Station (NAS) Sunnyvale and NAS Moffett Field (or Moffett Field). The driving range is located in the Airfield portion of ARC, which includes munitions magazines, safety buffer zones, two parallel runways, and associated Hangars 1, 2, and 3.

As the lead federal agency at ARC, NASA is responsible for compliance with the NHPA, including Section 106, which requires federal agencies to take into account the effects of their activities and programs on historic properties.

Planetary Ventures, an independent entity, maintains a long-term ground lease for an area at Moffett Field of approximately 1,000 acres. Planetary Ventures proposes to remove the existing chain-link fence at the driving range at the Golf Club at Moffett Field and replace it with a taller net barrier that would be sufficient to keep golf balls within the driving range property. The proposed work is contained within areas of previous ground disturbance. The removal and replacement of the fencing is considered an undertaking per 36 CFR § 800.3(a).

This memo was prepared by Jeanne Barnes, Architectural History Program Manager at HDR. She has 14 years of experience and meets the Secretary of the Interior's Professional Qualifications Standards in both Architectural History and History (36 CFR Part 61).

## Project Location

The driving range is located towards the northeast corner of Moffett Field at ARC, approximately 350 feet northwest of the golf course Club House (Building 934), north of Macon Road and east of Marriage Road. The Aircraft Parking Apron (MF1002) is located south across Macon Road,

and an area containing high explosive munitions magazines is located immediately to the north (see Appendix A, Figure 1. Project Location Map; Figure 2. USGS Topographic Map, Mountain View Quad (USA Topo Maps)). The golf course is located to the southeast, east, and northeast of the driving range.

## Description of the Undertaking

Planetary Ventures proposes to remove the existing chain-link fence at the driving range at the Golf Club at Moffett Field and replace it with a taller net barrier. The current fence ranges from 16 - 20 feet in height and is not sufficiently tall (see Appendix A, Figure 4-Figure 6); golf balls frequently pass over the fence, causing a safety hazard to golf course patrons, pedestrians, and passing vehicular traffic. A taller barrier is needed to keep golf balls within the driving range property. The proposed new net barrier would be approximately 60 feet high. The netting will be polyester golf webbing hung between 20 to 25 black matte steel poles approximately 36 inches in diameter. Each pole will be installed at a depth of approximately 12 to 15 feet below ground (see Appendix A, Figure 7-Figure 8 for examples of proposed net installation). The proposed fence replacement is contained within areas of previous ground disturbance.

## Area of Potential Effects

The APE is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The APE takes into account both direct (construction/ground disturbance) and indirect effects (viewshed impacts, noise and vibration, etc.). For the proposed undertaking, the APE was divided into two parts: a direct effects APE and an indirect effects APE (see Appendix A, Figure 3. APE Map).

The direct effects APE is defined as including the existing fence line and 10 feet on either side of the existing fence to accommodate the removal of the fence, the installation of new poles, and associated ground disturbance. The vertical APE extends to 15 feet into the ground to account for the maximum depth of the support poles for the netting. Construction equipment used for this project would be staged on a temporary basis within the project site.

Given the height of the proposed netting, the indirect effects APE for this undertaking is defined as a 1,000-foot buffer around the furthest extent of the existing fence line. This APE takes into account the potential visual effects of the proposed new fencing.

## 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 National Register of Historic Places (NRHP). Numerous cultural resources surveys and investigations have occurred across the MFA property and the larger NASA ARC within the last 40 years in an effort to identify historic properties.

## Archaeological Resources

Although there have been nearly 30 archaeological investigations across MFA and ARC, two comprehensive surveys of the area were completed in 1991 and in 2017. Basin Research Associates conducted a complete archaeological overview and surface survey of MFA in 1991 (*Archeological Overview and Survey, NAS Moffett Field, Santa Clara County, California and*



*Naval Auxiliary Landing Field Crows Landing, Stanislaus County*). Their investigation did not find evidence of any prehistoric sites and observed that the subsurface impacts associated with the development of the area appears to have destroyed the integrity of any archaeological resources and that the likelihood of the existence of intact archaeological sites is remote. They further concluded that none of the historic-era resources or areas appear eligible for listing in the NRHP.

The most recent comprehensive archaeological investigation at ARC was completed in February 2017 by AECOM. In their *NASA Ames Research Center Archaeological Resources Study*, AECOM completed a desktop survey of archival resources and a geoarchaeological assessment of the entire ARC site. As part of the study, they also assessed archaeological sensitivity and the potential for buried archaeological resources at ARC.

The land that comprises ARC has changed dramatically within the last 90 years, moving from primarily agricultural uses to being extensively developed by the Navy starting in 1931 to build NAS Sunnyvale and later by NASA in 1939 when construction began on the Ames Aeronautical Laboratory. Extensive surface disturbance occurred across ARC as the ground was leveled to create runways, aprons, and to allow for the construction of hundreds of buildings and structures to support the airfield and operations.

There are no previously identified archaeological resources in the vicinity of the driving range. The APE for the proposed project is not located within an area of identified archaeological sensitivity for historic or prehistoric resources. The recent survey by AECOM in 2017 also indicates that there is low potential for more deeply buried prehistoric archaeological resources across ARC, including at the driving range. As the proposed work is outside of the boundary of sensitive zones, and the work involves disturbance in locations of previous ground disturbance with low potential for deeply buried prehistoric sites, it is not anticipated that there is a likelihood of finding archaeological deposits with the direct effects APE. HDR recommends that further archaeological survey in the direct effects APE related to the undertaking is not necessary.

### **Architectural Resources**

Numerous architectural surveys have been conducted at ARC to identify historic architectural resources. The core of Moffett Field contains the NAS Sunnyvale Historic District, which was listed in the NRHP in 1994 and is eligible under Criteria A and C. A boundary expansion to include Moffett Field as part of the Historic District was determined eligible for the NRHP under Criterion A in 2013 and is commonly referred to as the “expanded NAS Sunnyvale Historic District.”

Following the determination of eligibility for the boundary expansion, the SHPO requested that NASA develop a list of contributing properties to the expanded historic district and identify character defining features of contributing resources and the landscape. This resulted in AECOM’s 2013 *Historic Property Survey Report for the Airfield at NASA Ames Research Center, Moffett Field, California*.

In addition to the NAS Sunnyvale Historic District and the expanded NAS Sunnyvale Historic District, there are 20 buildings, structures, and resources located within the indirect effects APE.

All of the resources within the APE that are 50 years of age or older have been evaluated for NRHP eligibility through previous surveys and investigations, including AECOM's 2013 *Historic Property Survey Report*. Of those resources within the APE, 13 are considered historic properties (Table 1). All of the buildings, except for Hangar 3 (Building 047), are contributing resources to the expanded NAS Sunnyvale Historic District. Hangar 3 is listed in the NRHP as a contributing resource to the NAS Sunnyvale Historic District.

**Table 1. Historic Properties within the Indirect Effects APE**

Building Number	Building Name	NRHP Status
047	Aircraft Maintenance Hangar 3	Listed
069	Inert Ammunition Storage	Eligible <sup>1</sup>
070	High Explosive Magazine	Eligible
071	High Explosive Magazine	Eligible
072	High Explosive Magazine	Eligible
073	High Explosive Magazine	Eligible
074	Fuse and Detonator Magazine	Eligible
143	High Explosive Magazine	Eligible
147	High Explosive Magazine	Eligible
528	High Explosive Magazine	Eligible
MF1002	Aircraft Parking Apron	Eligible
n/a	NAS Sunnyvale Historic District	Listed
n/a	Expanded NAS Sunnyvale Historic District	Eligible

The 2013 *Historic Property Survey Report* also identified significant landscape features within the historic district. The report notes the spatial organization and the open landscape of the northern portion of the Airfield, including the safety buffer zone surrounding the munitions magazines, the golf course, and the aircraft parking apron as character-defining features that contribute to the significance of the Airfield.

The northeast portion of the airfield where the driving range and APE is located was largely developed in the 1940s through 1960. The initial munitions magazines (Buildings 070, 071, 072, 073, 074) north of the driving range and the inert ammunition storage building (Building 069) just south of the driving range were constructed in 1943. Three new high-explosive magazines along Marriage Road north of the driving range were constructed in 1951 (Buildings 143, 147, 528). The golf course was constructed in 1960 within the safety buffer zone surrounding the magazines. In the southern portion of the indirect effects APE is Hangar 3 (Building 047),

<sup>1</sup> Building 069 was identified in the 2013 *Historic Property Survey Report* as being a contributing resource to the expanded NAS Sunnyvale Historic District. However, the building was re-evaluated by AECOM in the *Historic Property Survey Report for the Defense Fuel Support Closure Project*. It is unknown if the SHPO concurred with the re-evaluation, as such, Building 69 is considered eligible for the purposes of this undertaking.



constructed in 1943 as an aircraft maintenance hangar, and MF1002, an aircraft parking apron that was constructed in 1945. Views to Hangar 3 framing the east side of the runway area, which visually balances Hangar 1 on the west side of the runway, is considered a contributing feature to the Airfield.

## Assessment of Effects

The criteria of adverse effects were applied to historic properties within the APE. Per 36 CFR § 800.5(a)(1), an adverse effect results when an undertaking may alter, either 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 property's historic integrity.

There are no known archaeological sites in the APE for the undertaking. The proposed work is outside of the boundary of sensitive archaeological zones and the work involves previously disturbed areas with low potential for deeply buried prehistoric sites. Therefore, there are no effects on archaeological resources as none are present in the APE. Should the project uncover previously unknown subsurface archaeological resources, Planetary Ventures will immediately halt construction, secure the site, and notify NASA of the unanticipated discovery. Planetary Ventures will follow the Standard Operating Procedure (SOP) for unanticipated discoveries as outlined in the 2014 *NASA Ames Research Center Integrated Cultural Resources Management Plan* (AECOM 2014).

There are 13 historic properties located within the APE for the undertaking. While the proposed netting surrounding the driving range will be visible within the viewshed of historic properties such as Hangar 3 (from the rear) and in the open setting of the Airfield, which is considered contributing to the significance of the expanded historic district, the proposed replacement of the existing fence at the driving range with new netting will not compromise the integrity of location, design, setting, materials, workmanship, feeling, or association of any historic property in the APE. The webbing that is used for the proposed netting is more transparent than the current chain-link fence that surrounds the driving range and the new netting will not visually impact any significant views across the Airfield. Further, there are other utility poles, lighting, antennae, and other vertical intrusions within the APE and within the larger historic district and expanded historic district boundaries that are typical for airfields and military installations. The replacement of the existing fencing around the driving range with new netting will not adversely affect any character-defining features of the Airfield, the contributing resources to the historic district and its boundary expansion within the APE, the historic district and boundary expansion themselves, nor will the replacement of the fencing with netting adversely affect any historic property in the APE. Therefore, HDR recommends that the replacement of the driving range fencing with netting (the undertaking) will have No Adverse Effect on historic properties.

## Summary of Findings

The criteria of adverse effect were applied to historic properties in the APE. The proposed undertaking is found not to alter, directly or indirectly, any of the characteristics of a historic property that qualify that property for inclusion in the NRHP. Therefore, the proposed undertaking would have No Adverse Effect on historic properties per 36 CFR § 800.5(b).

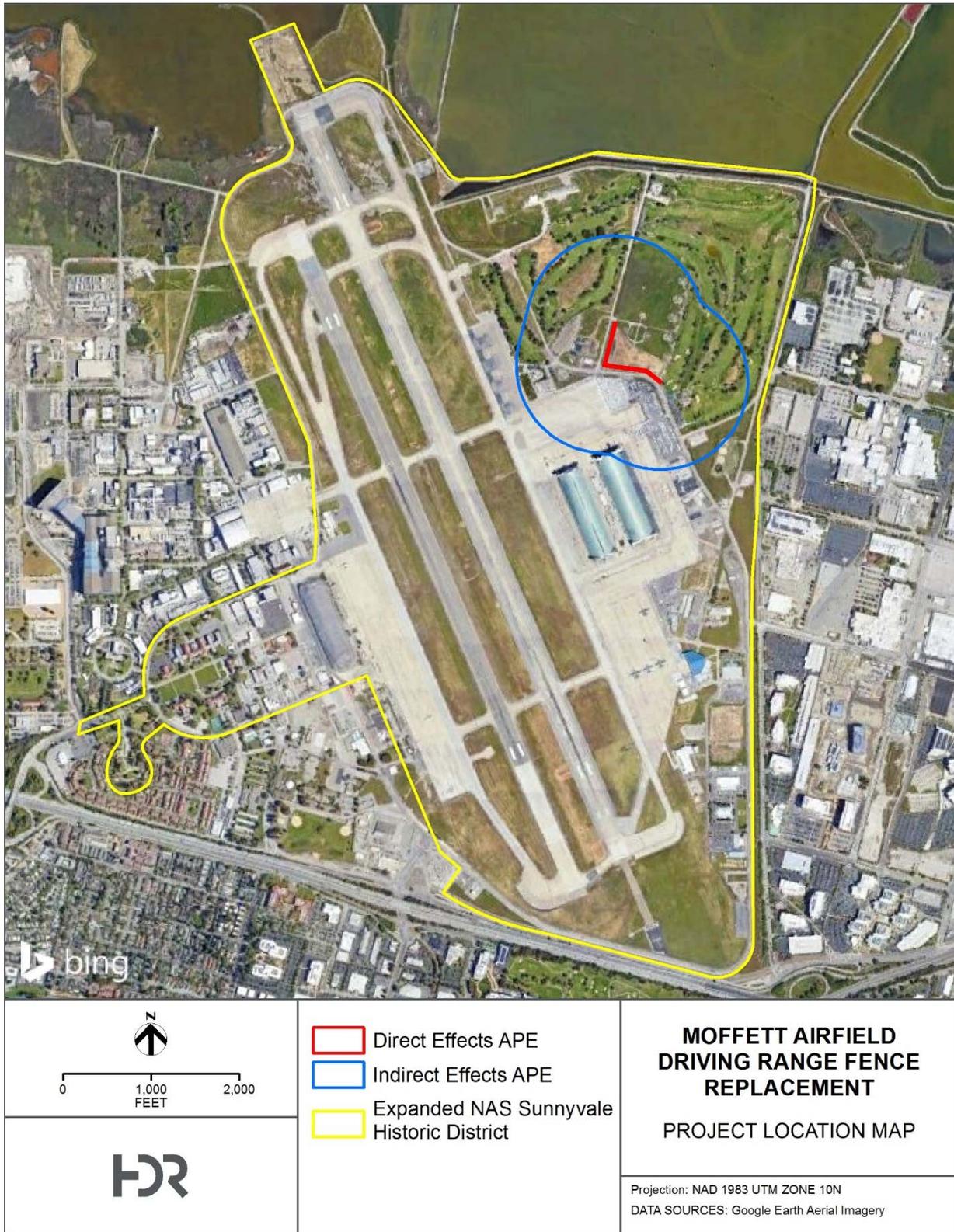


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Maps and Photos



Figure 1. Project Location Map



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Figure 2. USGS Topographic Map, Mountain View Quad (USA Topo Maps)

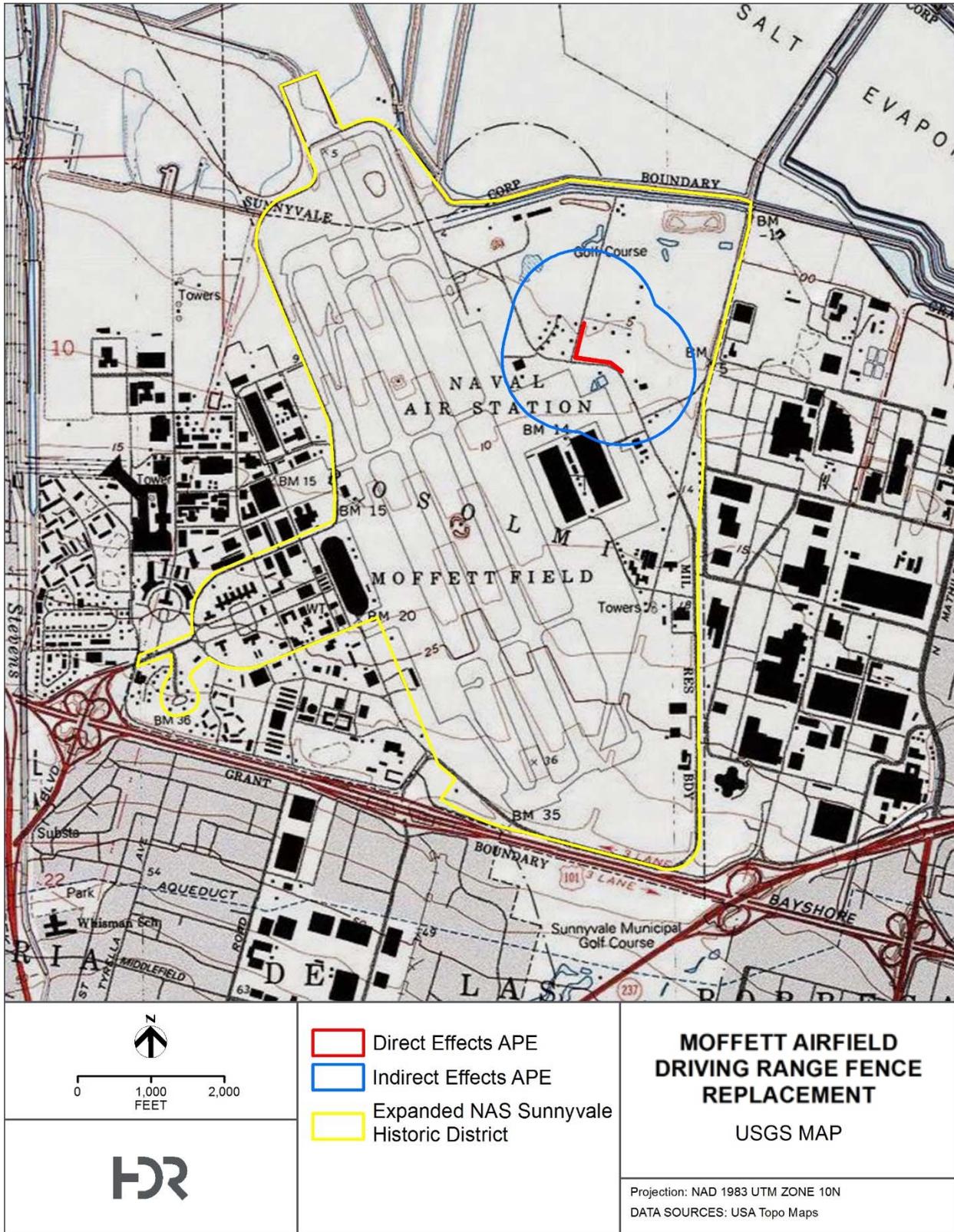
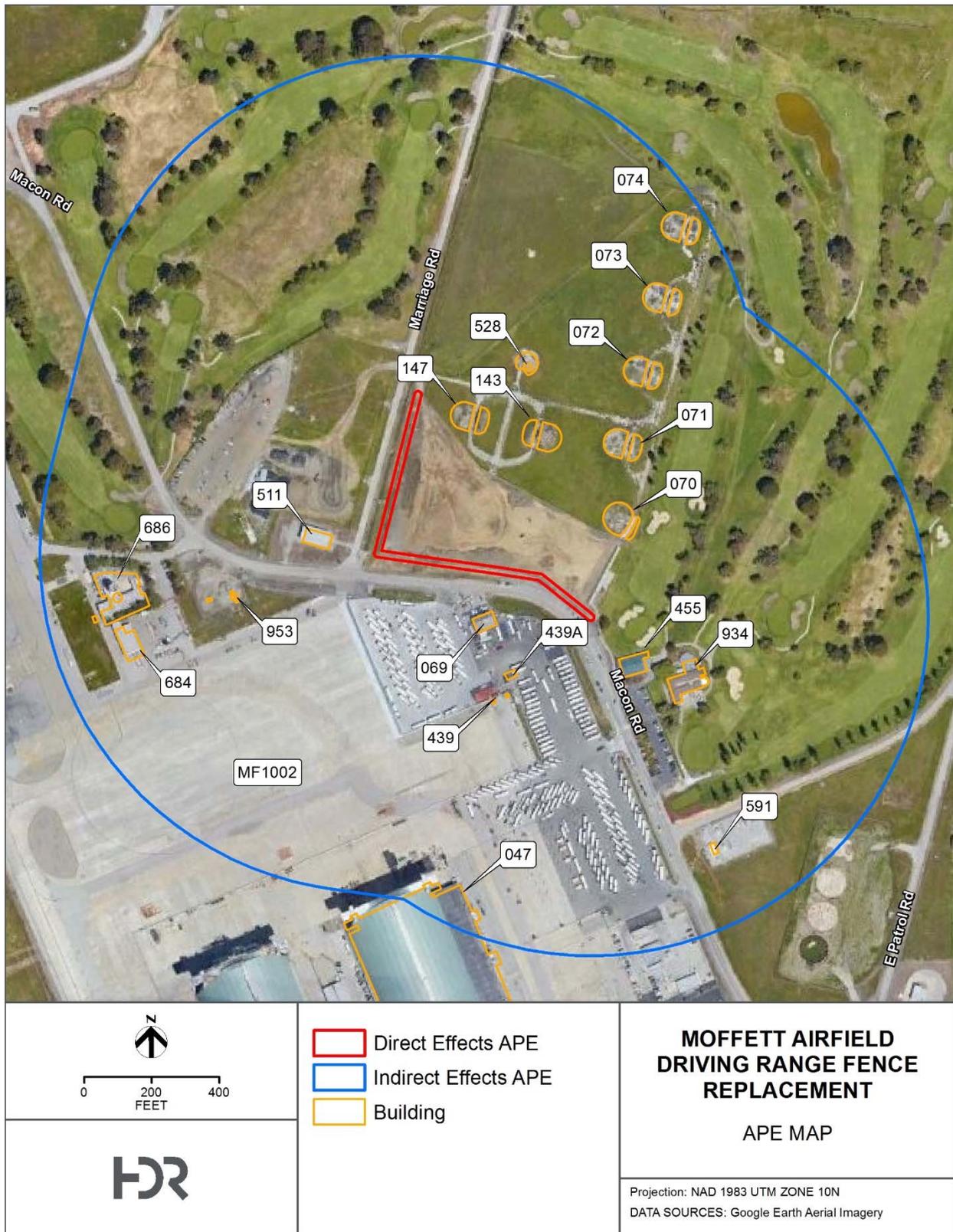


Figure 3. APE Map



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Figure 4. Existing driving range fencing at the Golf Club at Moffett Field along Macon Road, view north



Figure 5. Existing driving range fencing at the Golf Club at Moffett Field along Macon Road, view west



Figure 6. Existing driving range fencing at the Golf Club at Moffett Field along Marriage Road, view northwest



**Figure 7. Example of Proposed Net Barrier and Poles**



**Figure 8. Example of Proposed Net Barrier and Poles**

