DRAFT
ENVIRONMENTAL ASSESSMENT FOR PROPOSED MISSILE AND SPACE PARK LOS ANGELES AIR FORCE BASE

61ST AIR BASE GROUP
LOS ANGELES AIR FORCE BASE
LOS ANGELES, CALIFORNIA

MAY 2020

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DRAFT
FINDING OF NO SIGNIFICANT IMPACT FOR SPACE AND MISSILE PARK AT LOS ANGELES AIR FORCE BASE

Pursuant to Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA), Title 23, U.S. Code (USC) § 327; Title 40, Code of Federal Regulations (CFR) Parts 1500-1508; and the U.S. Air Force (USAF) Environmental Impact Analysis Process (EIAP) Regulations codified at 32 CFR Part 989, the USAF, as the Lead Agency, has prepared an Environmental Assessment (EA) to identify and evaluate the potential impacts on the natural and human environment associated with the proposed Space and Missile Park (Park) at Los Angeles Air Force Base (AFB), California.

PURPOSE OF AND NEED FOR PROPOSED ACTION

The overall purpose of the Proposed Action is to provide a tangible reminder of the Space and Missile Systems Center's (SMC's) past heritage and ongoing work on current and future space systems. The proposed Park is intended to function as an educational display and ensure the preservation of important representative artifacts documenting the SMC's history. Additionally, the Park would serve as a gathering place for SMC personnel and visitors to enjoy the outdoors, improving morale and welfare at the base. The overall need for the Park stems from a relative lack of on-base services and amenities available to SMC personnel, retirees, and visitors. Los Angeles AFB is a non-flying base and space is limited; therefore, the base offers comparatively fewer morale, welfare, and recreation (MWR) opportunities than bases with larger land areas available for use by USAF personnel and their families. In addition, there are no other USAF installations in the Los Angeles Basin, further limiting options for USAF retirees and families to access services to which they are entitled (e.g., medical clinic, base exchange, recreation center, etc.). Establishment of the Park would fulfill a need by providing enhanced opportunities for these individuals to enjoy and engage in activities at the base.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Selection Standards for Alternatives (Section 2.2, *Selection Standards for Project Alternatives*, Pages 2-1 to 2-3 of the EA)

Potential alternatives to the Proposed Action were each evaluated based on three selection standards, which were applied to all alternatives.

- ***Standard 1: Planning Constraints*** – Planning constraints comprise created or natural elements that can present significant limitations to the construction or

operation of buildings, roadways, utilities, and other infrastructure or facilities. These constraints, when considered collectively with the base's capacity opportunities, inform the identification of potential areas for development. This standard addresses compatibility with overall base operations and functionality, land use compatibility, and natural and built resources, and largely dictates the location/placement of a proposed facility or other development.

  - ***Operational –*** Los Angeles AFB does not have a flying mission or an aircraft inventory; therefore, many typical operational constraints are not applicable at this location. Operational constraints at the base are generally related to transportation and circulation, parking, etc.

  - ***Natural –*** Although limited in abundance at Los Angeles AFB, natural constraints include biological and cultural resources. These resources provide positive aesthetic, social, cultural, and recreational attributes that substantially contribute to the overall quality of life at the base.

  - ***Built –*** Built constraints are related to the condition, functionality, or effectiveness of infrastructure systems, facilities, and other improvements.

  - ***Land Use*** – Land use compatibility constraints are associated with land use designations (e.g., utilities, industrial, administrative, recreation, open space, etc.) on the base and ensuring that planning considerations account for compatibility between proposed and existing uses.

- ***Standard 2: Base Capacity Opportunities*** – This refers to the capabilities of the base's existing infrastructure to meet existing and future mission requirements. This standard largely drives the scope of the development and requires that proposed development supports – or at a minimum does not compromise: 1) mission operations; 2) mission support; 3) built infrastructure; and 4) quality of life.

- ***Standard 3: Sustainability Development Indicators*** – This refers to the ability to operate into the future without a decline in either the mission or the natural and built systems that support it, ensuring long-term sustainability of the base. Sustainability is a holistic approach to asset management that seeks to minimize the negative impacts of the USAF's mission and operations on the environment. This standard also generally drives the scope of development and supports sustainability of the base through consideration of energy, water,

wastewater, air quality, facilities space optimization, encroachment, and natural/cultural resources.

Description of the Proposed Action (Section 2, *Detailed Description of Alternatives*, Pages 2-4 to 2-7 of the EA)

The Proposed Action comprises grading of an existing manicured lawn and stormwater detention basin and replacement with hardscape and landscaping to support installation of up to six static artifact displays. While the list of artifacts to be installed remains conceptual, anticipated artifact installations include the horizontal or vertical installation of a Falcon 9 rocket body (vertical), Minuteman (vertical), and Peacekeeper (horizontal). The location of the proposed Park is compliant and consistent with Selection Standards described above.

Alternatives Eliminated from Further Consideration (Section 2.5, *Alternatives Eliminated from Further Consideration* Pages 2-8 to 2-11 of the EA)

Alternative Siting Locations. The SMC considered siting the proposed Park included in the Proposed Action at different locations at Los Angeles AFB. Each of these alternatives were dismissed from further consideration as they either did not meet the purpose and need for the Proposed Action or did not meet one or more of the Selection Standards described above. The only alternatives carried forward for full analysis were the Proposed Action and the No-Action Alternative.

Description of the No-Action Alternative (Section 2.4.2, *Alternative 2: No-Action Alternative*, Pages 2-6 of the EA)

Under the No-Action Alternative, the proposed Park described as the Proposed Action would not be constructed. Consequently, the existing manicured lawn and stormwater detention basin would remain undeveloped and there would be no changes to existing site topography and no impacts to on-site drainage features. The SMC would continue to use the area as a jogging path, and the absence of an outdoor Space and Missile Park would continue to limit MWR opportunities at the base. However, because CEQ regulations stipulate that the No-Action Alternative be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented, this alternative is carried forward for analysis in the EA. The No-Action Alternative also provides a baseline against which the Proposed Action can be compared.

ENVIRONMENTAL CONSEQUENCES

The environmental analysis included in the EA focuses on the following resource areas: water resources, visual resources, transportation and circulation, and air quality.

Per NEPA, resource areas anticipated to experience either no impacts or negligible environmental impacts were not examined in detail in the EA. These resource areas include: land use, noise, geology and soils, cultural resources, hazardous materials and wastes, safety, socioeconomics, and environmental justice / protection of children. Section 3.2, *Scope of the Environmental Assessment*, Pages 3-1 to 3-6 of the EA provides the rationale for dismissal of these resource areas.

Water Resources (Section 4.3, *Water Resources*, Pages 4-2 to 4-5 of the EA): There would be short-term construction-related stormwater pollution associated with the Proposed Action resulting from 1) earth-moving activities which may result in soil erosion and sedimentation; 2) handling, storage, and disposal of construction materials containing petroleum, oils, and lubricants; and 3) on-site operation and maintenance of construction equipment. Implementation of the Proposed Action would disturb less than 1 acre and therefore, a General Construction Activity Storm Water Permit would not be required. Nevertheless, standard construction best management practices (BMPs) would be implemented (i.e., good site management "housekeeping," erosion control, sediment control, run-on and runoff controls). These BMPs – including silt fencing, soil stockpiling, dust suppression, and construction worker education – would ensure that short-term construction impacts to water quality both at the project site and in the Los Angeles AFB stormwater system would be negligible.

Potential long-term impacts to stormwater flows at Los Angeles AFB could result from the removal of the existing 0.32-acre stormwater detention basin, which provides a capacity of approximately 90,000 cubic feet (2.07 acre feet). A drainage plan for the proposed Park shall be prepared prior to the initiation of construction-related activities and will include detailed hydrology/hydraulic calculations as well as specific drainage improvements. Potential options to offset the loss of the 0.32-acre detention basin could include redirection of flows to smaller, neighboring detention basins or construction of an underground stormwater detention vault beneath the proposed Park. Given the relatively small area of the existing stormwater detention basin and the proposed offset with appropriate replacement infrastructure to be detailed in the drainage plan, the Proposed Action would have a less than significant impact on surface waters.

Los Angeles AFB is not located within any designated floodplain and the Proposed Action would not involve deep excavations that would affect any local aquifers. Therefore, the Proposed Action would result in less than significant impacts on floodplains and groundwater resources.

Visual Resources (Section 4.4, *Visual Resources*, Pages 4-5 to 4-7 of the EA): The Proposed Action would include the installation of up to six rocket and missile artifacts within the proposed Park. The proposed artifacts would be emplaced in both vertical and horizontal exhibits, with the tallest artifact expected to be a Falcon 9 rocket standing at approximately 90 feet. Given their height, one or more of the artifacts would be visible from all locations on Los Angeles AFB except for some locations to the east and southeast of the proposed Park, which would be screened by the base's three central, multi-story office buildings. Vertical displays would also be visible to off-base viewers, including residences to the northeast, but would be partially screened by security fencing and intervening low-rise buildings. Even though the proposed rocket and missile artifact displays would contrast with the existing office park development at Los Angeles AFB and the surrounding civilian development, the displays would be consistent with and reflective of the mission and history of the base. Further, they would be educational and decorative in nature and would not adversely affect or reduce the visual sensitivity of the base. Therefore, while both on- and off-base viewsheds would be altered by implementation of the Proposed Action, impacts to visual resources would be less than significant.

Transportation and Circulation (Section 4.5, *Transportation and Circulation*, Pages 4-7 to 4-10 of the EA): Short-term, construction-related impacts to local on- and off-base transportation and circulation would be associated with construction equipment and workers arriving to and departing from the project site at Los Angeles AFB. Due to the limited size of the project site (i.e., less than 1 acre), anticipated construction traffic would be limited to one grader, one trencher, one dump truck, one roller, one crane truck, and one cement truck all supported by an estimated construction crew of approximately 15 personnel. Total daily trips during the construction phase are anticipated to average approximately 36 trips per day split between the AM and PM peak hours (i.e., 3 construction equipment trips and 15 construction worker trips during each peak-hour period). The anticipated 18 peak-hour trips during each of the peak hours are less than the threshold value of a 2-percent increase in peak-hour trips through the nearest intersection, Sepulveda Boulevard and El Segundo Boulevard. Following completion of the construction phase, the proposed Park would neither generate a substantial number of additional trips to Los Angeles AFB nor would it substantially reduce the number of available on-base parking spaces as the Park, like the rest of the base, would remain available primarily to active duty and retired USAF service members and their guests. Because the Proposed Action would add fewer trips that the threshold for AM and PM peak hours during construction and operation of the proposed Park and would not add any long-term trips to the area, the Proposed Action would have short-term, less than significant impacts and no long-term impacts to transportation and circulation at and around Los Angeles AFB.

Air Quality (Section 4.6, *Air Quality*, Pages 4-10 to 4-15 of the EA): There would be short-term, localized emissions during site preparation and construction activities associated with the Proposed Action. The proposed projects included in the Proposed Action would disturb a total area of approximately 0.70 acres. With the implementation of standard dust minimization practices, the total amount of dust (including both PM_{10} and $PM_{2.5}$) generated by the proposed construction and demolition activities would be approximately 0.385 tons per year (tpy). Additionally, operation of construction equipment with internal combustion engines and offsite vehicles (e.g., construction employee vehicles, delivery trucks) would result in emission of criteria air pollutants. However, construction equipment would be driven to and kept on-site for the duration of construction activities to the extent practicable as some equipment cannot be retained on-site overnight or only needed during limited construction days, and idling equipment would be shut off when not in use. Between daily worker commutes and transportation of construction equipment that cannot be retained on-site, it is anticipated that there would be 36 daily emissions-generating trips (6 construction equipment and 30 construction worker commutes) per day. Emissions associated with the Proposed Action would be well below *de minimis* thresholds for all pollutants. Therefore, the Proposed Action would not trigger the requirement for a Conformity Determination under the General Conformity Rule. Further, under the Proposed Action, there would be no long-term changes to operational emissions at Los Angeles AFB. The implementation of the Proposed Action would neither cause an exceedance of the National Ambient Air Quality Standards (NAAQS), nor exceed a *de minimis* threshold for any criteria pollutant. Therefore, the Proposed Action would result in less than significant impacts to air quality.

Cumulative Effects (Section 5, *Cumulative Impacts*, Pages 5-1 to 5-7 of the EA): Overall, the Proposed Action would result in minor, less than significant impacts that would be well below context and intensity thresholds described for each resource area. As such, the projects included in the Proposed Action would not contribute to cumulatively significant impacts when considered with other past, present, and reasonably foreseeable future actions occurring at or in the vicinity of Los Angeles AFB.

MITIGATION AND MONITORING

The Proposed Action would not have the potential to result in significant impacts to any of the resource areas considered in this EA. As such, no mitigation measures would be required to reduce impacts to less than significant levels. Nevertheless, BMPs are described for water resources, visual resources, transportation and circulation, and air quality. Although not required to reduce potential impacts to less than significant levels, these BMPs would be implemented in order to further reduce short-term, construction-related or long-term operational impacts as a result of the implementation of the Proposed Action.

PUBLIC REVIEW

NEPA, 40 CFR Parts 1500-1508, and 32 CFR Part 989 require that the public have an opportunity to review an EA before approval of a Finding of No Significant Impact (FONSI) and implementation of the Proposed Action. A Notice of Availability (NOA) for public review of the Draft EA was published and the Draft EA has been made available for public review. All comments during the public review period for the Draft EA will be considered and incorporated into the Final EA.

FINDING OF NO SIGNIFICANT IMPACT

Based on the requirements of NEPA, 40 CFR Parts 1500-1508, 32 CFR Part 989, and the analysis in the attached EA, I conclude that the environmental effects of implementing the Proposed Action would not be significant and, therefore, an Environmental Impact Statement will not be prepared. The signing of this FONSI completes the USAF Environmental Impact Analysis Process.

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ANN M. IGL, Colonel, USAF Date

Commander

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
ADA	Americans with Disabilities Act
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFI	Air Force Instruction
AT/FP	Anti-Terrorism/Force Protection
BMP	best management practice
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CARB	California Air Resources Board
CBC	California Building Code
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CWA	Clean Water Act
dB	decibel
DoD	Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FR	Federal Register
ft bgs	feet below ground surface
GHG	greenhouse gases
I-	Interstate
IDP	Installation Development Plan
LAX	Los Angeles International Airport
LOS	Level of Service
MSL	mean sea level
MWR	morale, welfare, and recreation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act

ACRONYMS AND ABBREVIATIONS (CONT.)

NFA	No Further Action
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
O_3	ozone
Park	Space and Missile Park
Pb	lead
$PM_{2.5}$	particulate matter 2.5 micrometers or less diameter
PM_{10}	particulate matter 10 micrometers or less diameter
POL	petroleum, oil, and lubricant
ppm	parts per million
ROG	reactive organic gases
RONA	Record of Non-Applicability
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
sf	square foot
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMC	Space and Missile Systems Center
SO_2	sulfur oxide
SWPPP	Storm Water Pollution Prevention Plan
tpy	tons per year
UFC	Unified Facilities Criteria
USAF	U.S. Air Force
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USSF	U.S. Space Force
VOC	volatile organic compounds

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

Figures

Tables

Appendices

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SECTION 1
PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

Los Angeles Air Force Base (AFB) is a 54-acre property located in the heavily urbanized Los Angeles Basin, within the City of El Segundo. The base is located immediately west of the incorporated City of Hawthorne, approximately 1 mile south of Los Angeles International Airport (LAX), and 0.5 mile southwest of the intersection of Interstates 105 (I-105) and I-405. Los Angeles AFB is a non-flying base, with no airfield and no assigned aircraft; however, the base provides approximately 543,000 square feet (sf) of office and administrative space and supports approximately 3,000 civilian and military personnel. The 61st Air Base Group is the host unit at the base and is ultimately responsible for the base's mission to provide integrated, affordable systems for the control and exploitation of air and space.

The Space and Missile Systems Center (SMC) is a unit of the newly established U.S. Space Force (USSF), which was stood up on December 20, 2019. Formerly part of Air Force Space Command, SMC is now officially the "center of acquisition excellence" for the USSF and is already heavily involved with joint efforts to develop Multi-Domain Operations: coordinated campaigns across air, land, sea, cyberspace, and outer space. SMC is a primary tenant at Los Angeles AFB and has put forth a proposal to construct an outdoor Space and Missile Park (Park) in the central core of the base.

This Environmental Assessment (EA) has been prepared to evaluate potential impacts of constructing and maintaining the proposed Park. The EA complies with the National Environmental Policy Act of 1969 (NEPA) (42 U.S. Code [USC] §§4331 et seq.), Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] Parts 1500-1508), U.S. Air Force (USAF) Environmental Impact

Assessment Process (EIAP) regulations codified at 32 CFR Part 989, and Air Force Instruction (AFI) 32-7061, *The Environment Impact Analysis Process.*[1]

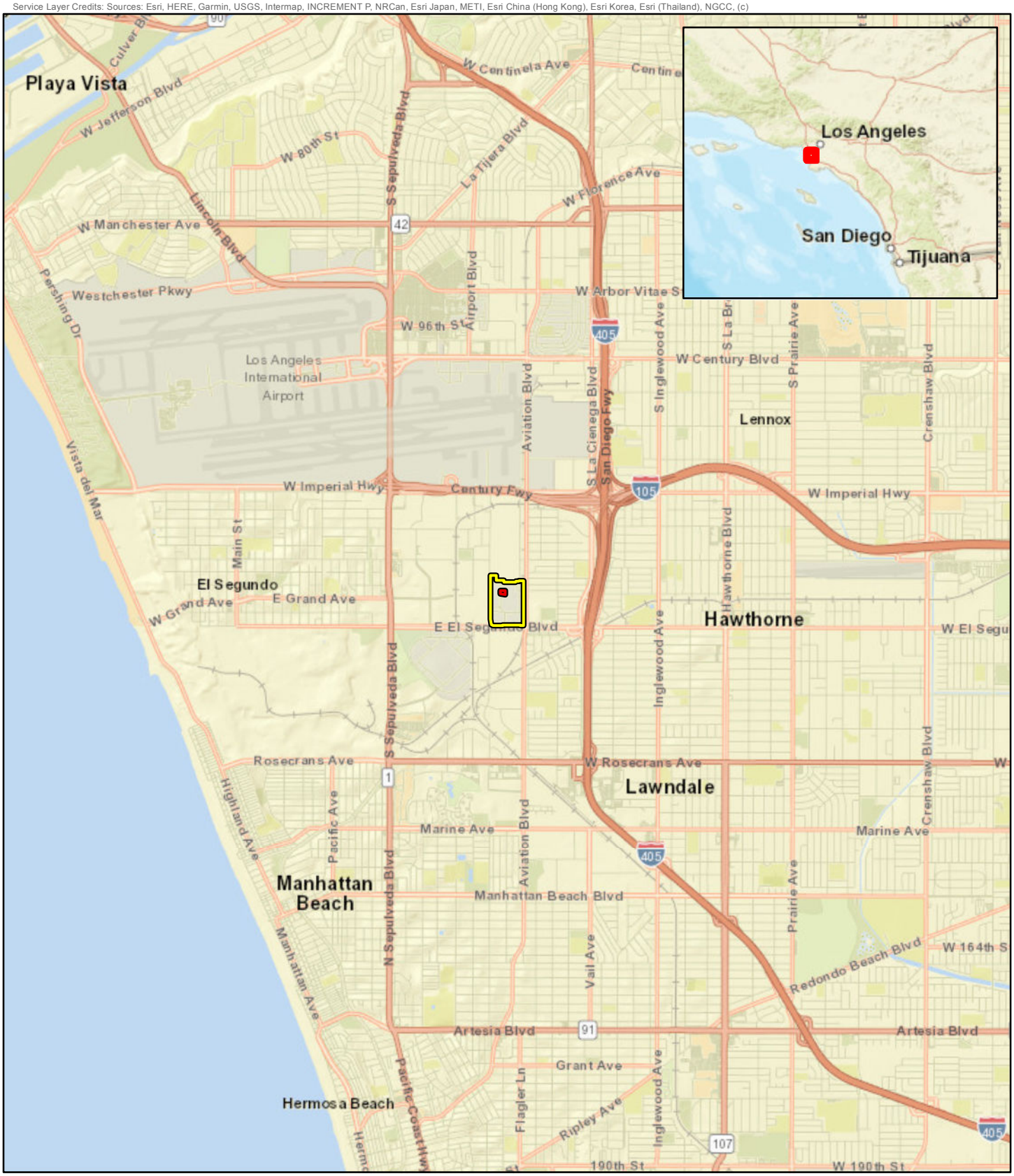
1.2 PURPOSE AND NEED

The *purpose* of the proposed Park – as proposed by SMC leadership – is to provide a tangible reminder of both the SMC's past heritage and their work on current and future systems. The proposed Park would function as an educational development display and would ensure the preservation of important representative artifacts documenting the SMC's history. The proposed Park would also serve as a gathering place for SMC personnel and visitors to enjoy the outdoors, improving morale and welfare at the base.

The project site is located immediately adjacent to the south of an existing surface parking lot (shown above) and currently functions as a stormwater detention basin that collects surface water runoff entering from an underground double box culvert.

The *need* for the proposed Park stems from a relative lack of on-base services and amenities available to SMC personnel, retirees, and visitors. Los Angeles AFB is a non-flying base and is space limited; therefore, the base offers comparatively fewer morale, welfare, and recreation (MWR) opportunities than bases with larger land areas available for use by USAF personnel and their families. In addition, there are no other USAF installations in the Los Angeles Basin, further limiting options for USAF retirees and families to access services to which they are entitled (e.g., medical clinic, base exchange, recreation center, etc.). Establishment of the proposed Park would fulfill a need by providing enhanced opportunities for these individuals to enjoy and engage in activities at the base (see Section 2.3, *Proposed Action and Alternatives*).

[1] USAF EIAP regulations, codified at 32 CFR Part 989, and AFI 32-7061 were adhered to during preparation of this EA as the Proposed Action would occur at a USAF facility. USSF has not yet established regulations and instructions for the preparation of NEPA-compliant documentation.



wood.

FIGURE 1-1

Regional Location
Environmental Assessment
Los Angeles Air Force Base
Los Angeles. Ca.

1.3 INTERAGENCY/INTERGOVERNMENTAL COORDINATION AND CONSULTATION

1.3.1 Interagency Coordination and Consultation

Scoping is an early and open process for developing the breadth of issues to be addressed in an EA and for identifying significant concerns related to a federal action. Per the requirements of the Intergovernmental Cooperation Act of 1968 (42 USC §4231[a]) and Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, federal, state, and local agencies with jurisdiction that could be affected by the Proposed Action were notified during the development of this EA (see Appendix A).

1.3.2 Government to Government Consultation

Section 106 of the National Historic Preservation Act of 1966 (NHPA), and its implementing regulations (36 CFR Part 800), requires federal agencies to consult with federally recognized Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands. Consistent with EO 13175, *Consultation and Coordination with Indian Tribal Governments*, Department of Defense (DoD) Instruction (DoDI) 4710.02, *Interactions with Federally-Recognized Tribes*, and AFI 90-2002, *Air Force Interaction with Federally-Recognized Tribes*, Native American tribes that are historically affiliated with lands in the vicinity of the base have been invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes (see Appendix B). The Native American consultation process is distinct from the interagency coordination process and requires separate notification of all relevant Native American tribes. The timelines for Native American consultation are also distinct from those of other agency consultation. While the Gabrielino-Tongva Tribe is not federally recognized, USAF policy is to consult with all local tribes regardless of federal recognition unless a tribe provides a letter requesting consultation not take place.

Tribal Councilwoman Linda Candelaria was contacted on 5 February 2020 to confirm the mailing address for the Gabrielino-Tongva Tribe. A consultation letter was sent to the attention of Tribal Councilwoman Lina Candelaria on 6 February 2020. Follow-up e-mail correspondence was sent on 1 April and 13 April 2020 to

determine whether the Gabrielino-Tongva Tribe intended to provide comments or request formal consultation. Additionally, a follow-up phone call was placed and a voicemail was left on 14 April 2020 (see Appendix B). No responses have been received to date from the Gabrielino-Tongva Tribe. The USAF has fulfilled the requirements of Section 106 of the NHPA and EO 13175, *Consultation and Coordination with Indian Tribal Governments*; DoDI 4710.02, *Interactions with Federally-Recognized Tribes*; and AFI 90-2002, *Air Force Interaction with Federally-Recognized Tribes*.

1.3.3 Other Agency Consultation

Per the requirements of Section 7 of the Federal Endangered Species Act (ESA) and implementing regulations (50 CFR Part 402) as well as Section 106 of the NHPA and implementing regulations (36 CFR Part 800) a finding of no effect and request for concurrence was been submitted to the U.S. Fish and Wildlife Service (USFWS) and California State Historic Preservation Officer (SHPO) on 6 February 2020 (see Appendix C). The USFWS provided concurrence with the USAF's determination of no effect on 10 February 2020 (see Appendix C). The California SHPO received the consultation letter and did not object to the finding of no effect within 30 days; therefore, the USAF's responsibilities under Section 106 of the NHPA have been fulfilled pursuant to 36 CFR §800.4(d)(1)(i).

1.4 PUBLIC AND AGENCY REVIEW

NEPA, 40 CFR Parts 1500-1508, 32 CFR Part 989, and AFI 32-7061 require public review of the EA before approval of a Finding of No Significant Impact (FONSI) and implementation of the Proposed Action. Additionally, a Notice of Availability (NOA) for public review of the Draft EA was published and the Draft EA has been made available for public review. All substantive public and agency comments received during the 30-day public review period for the Draft EA will be considered and incorporated into the Final EA.

1.5 DECISION TO BE MADE

The EA evaluates whether the Proposed Action would result in significant impacts on the human and/or natural environment. If potentially significant impacts are identified, mitigation measures would be implemented to reduce impacts to below the level of significance. If mitigation measures are not feasible or are not sufficient to reduce impacts to below the level of significance the USAF would undertake the preparation of an Environmental Impact Statement (EIS) to address the Proposed Action or abandon the Proposed Action.

1.6 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

Based on the outcomes of interagency coordination, Native American consultation, and other agency consultation, this EA evaluates potential environmental impacts to the following resources that would have the potential to be affected by implementation of the Proposed Action:

- Water Resources;
- Visual Resources;
- Transportation and Circulation; and
- Air Quality.

SECTION 2
PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

This EA addresses potential environmental impacts that could result from the implementation of the Proposed Action – including the development of an outdoor Space and Missile Park at Los Angeles AFB involving the emplacement of six artifacts as well as landscaping and hardscaping improvements.

Construction-related ground-disturbing activities would have the potential to result in short-term, temporary, construction-related impacts that require analysis in accordance with NEPA. In addition to the Proposed Action, CEQ regulations require an assessment of reasonably feasible alternatives for implementation of the Proposed Action. CEQ regulations stipulate that the No-Action Alternative must be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented.

Details related to the Proposed Action and alternatives, including the No-Action Alternative, are provided below.

2.2 SELECTION STANDARDS FOR PROJECT ALTERNATIVES

This section outlines the alternative selection standards that were used to develop and analyze the range of reasonable alternatives for the proposed Park at Los Angeles AFB. Alternatives selection standards were used to help determine feasibility of alternatives, potential project siting locations, and the extent to which alternatives would fulfill the purpose of and need for the Proposed Action, as identified in Section 1.2, *Purpose and Need*.

Potential alternatives to the Proposed Action were evaluated based on three universal selection standards: Planning Constraints; Capacity Opportunities; and Sustainable Development Indicators.

Standard 1: Planning Constraints – Planning constraints comprise created or natural elements that can create significant limitations to the operation or construction of buildings, roadways, utilities, and other infrastructure or facilities.

These constraints, when considered collectively with the base's capacity opportunities, inform the identification of potential areas for development. This standard addresses compatibility with overall base operations and functionality, land use compatibility, and natural and built resources, and largely dictates the location/placement of a proposed facility or other development.

- *Operational* – Los Angeles AFB does not have a flying mission or an aircraft inventory, meaning many typical operational constraints are not applicable at this location. Operational constraints at the base are generally related to transportation and circulation, parking, etc. that can limit future development activity.

- *Natural* – Although limited in abundance at Los Angeles AFB, natural constraints include biological and cultural resources. These resources provide positive aesthetic, social, cultural, and recreational attributes that substantially contribute to the overall quality of life at the base.

- *Built* – Built constraints are related to the condition, functionality, or effectiveness of infrastructure systems, facilities, and other improvements.

- *Land Use* – Land use compatibility constraints are associated with land use designations (e.g., utilities, industrial, administrative, recreation, open space, etc.) on the base and ensuring that planning considerations account for compatibility between proposed and existing uses.

Standard 2: Capacity Opportunities – This refers to the capabilities of the base's existing infrastructure to meet existing and future mission requirements. This standard largely drives the scope of the development and requires that proposed development supports – or that at a minimum does not compromise: 1) mission operations; 2) mission support; 3) built infrastructure; and 4) quality of life.

Standard 3: Sustainability Development Indicators – This refers to the ability to operate into the future without a decline in either the mission or the natural and built systems that support it, ensuring long-term sustainability of the base. Sustainability is a holistic approach to asset management that seeks to minimize the negative impacts of the USAF's mission and operations on the environment.

This standard also generally drives the scope of development and supports sustainability of the base through consideration of energy, water, wastewater, air quality, facilities space optimization, encroachment, and natural/cultural resources.

2.3 SCREENING OF ALTERNATIVES

CEQ regulations mandate the consideration of reasonable alternatives to the Proposed Action. *Reasonable alternatives* are defined as those alternatives that could also meet the purpose of and need for the Proposed Action.

The NEPA process is intended to support flexible, informed decision-making; the analyses provided in this EA and feedback from the federal, state, and local agencies as well as other interested members of the public will inform decisions made about whether, when, and how to implement the Proposed Action. Among the alternatives evaluated is a No-Action Alternative, which analyzes the consequences of not constructing the proposed Park and establishes a comparative baseline for analysis.

2.4 DETAILED DESCRIPTION OF ALTERNATIVES

2.4.1 Alternative 1: Proposed Action – Space and Missile Park

The proposed Park would be established in the approximately 25,500 sf of manicured lawn immediately north of Building 270, which currently serves as a stormwater detention basin (see Figure 2-1). The jogging loop that currently passes through the subject parcel would remain intact and would continue to be available for walking and running.

The project site is immediately north of Building 270 and west of Building 272 (pictured above).

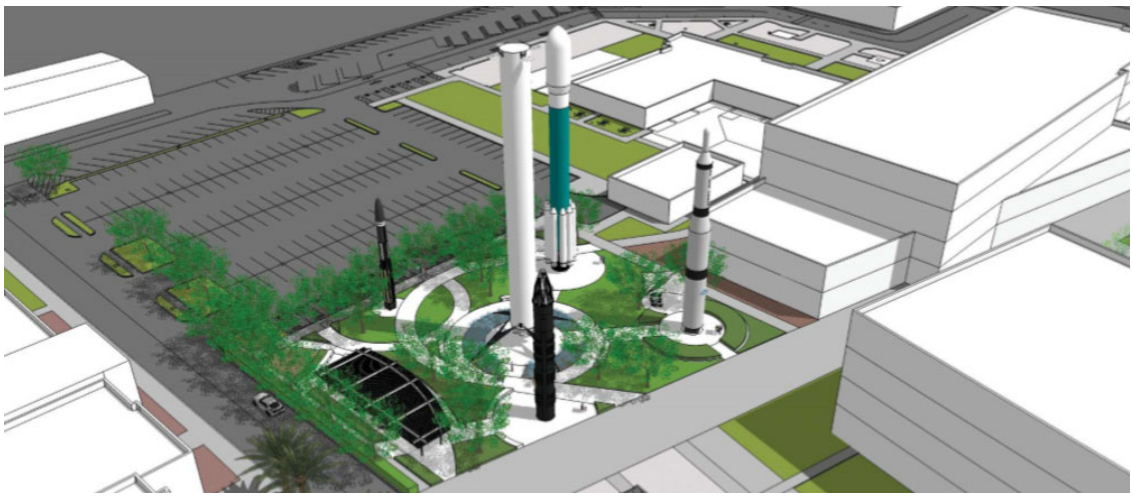
Site development would require grading of the existing manicured lawn and stormwater detention basin and replacement with hardscape and landscaping. Hardscape (i.e., cast-in-place concrete paving, decomposed granite, decorative rock cobble, etc.) would be installed along with irrigation and drainage systems. Drainage system concepts are still under development but could include re-routing stormwater flows from the surface parking lot to another stormwater detention basin to the northeast of the project site, which is not currently in use. Alternatively, construction of the proposed Park may involve the excavation of an underground stormwater vault beneath the proposed Park or the existing surface parking lot to the north. Planters would be planted with specimen trees, shrubbery, and other native, drought-tolerant plantings.

While several details (e.g., complete inventory and orientation of static displays) are still under development, the conceptual designs for the proposed Park call for up to six artifacts displayed in either vertical or horizontal alignment. At a minimum SMC hopes to have the following artifact displays: Falcon 9 (vertical), Minuteman (vertical), and Peacekeeper (horizontal). The Falcon 9 would be the tallest artifact standing at approximately 90 feet. Each static display – including

required concrete foundations – would be engineered individually based on the specific artifact to be installed. Each of the static displays would feature informational plaques and educational signage.

A similar Falcon 9 static display is located at the Space X facility, approximately 3 miles east of Los Angeles AFB.

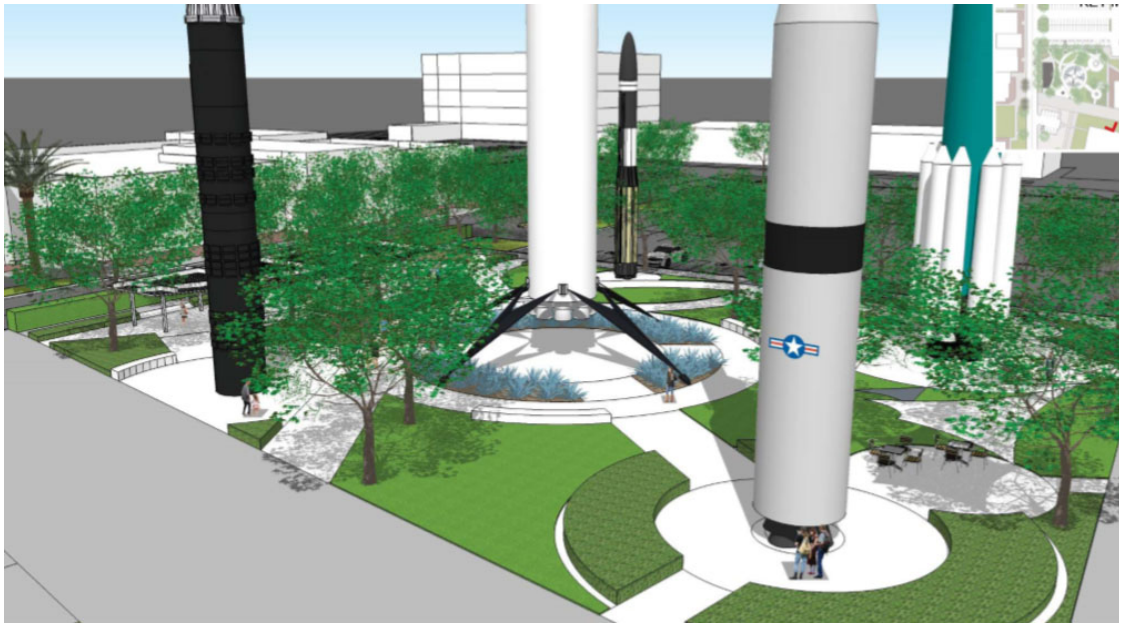
There would be two formal entrances to the proposed Park – one of which would be compliant with the Americans with Disabilities Act of 1990 (ADA) – and there would be several seating areas, with shade trees intended to provide inviting areas for congregation. There would also be multiple features incorporated into the design of the proposed Park to ensure safety (e.g., downcast pathway lighting) and to minimize impacts to surface water flows (e.g., use of permeable surfaces).


The implementation of the Proposed Action would develop an existing manicured lawn as a proposed Park with approximately six static displays, landscaped trees, shrubbery, and lawns, hardscape pathways, and seating areas.

The location of the proposed Park is compliant and consistent with Planning Constraints (i.e., no operational, natural/cultural, built, or land use constraints would interfere with the SMC's ability to construct or maintain the proposed

Park), Capacity Opportunities (i.e., the proposed Park would enhance the quality of life on base without compromising the USAF's ability to achieve the assigned mission), and Sustainable Development Indicators (i.e., the proposed Park would benefit the long-term viability of the base).

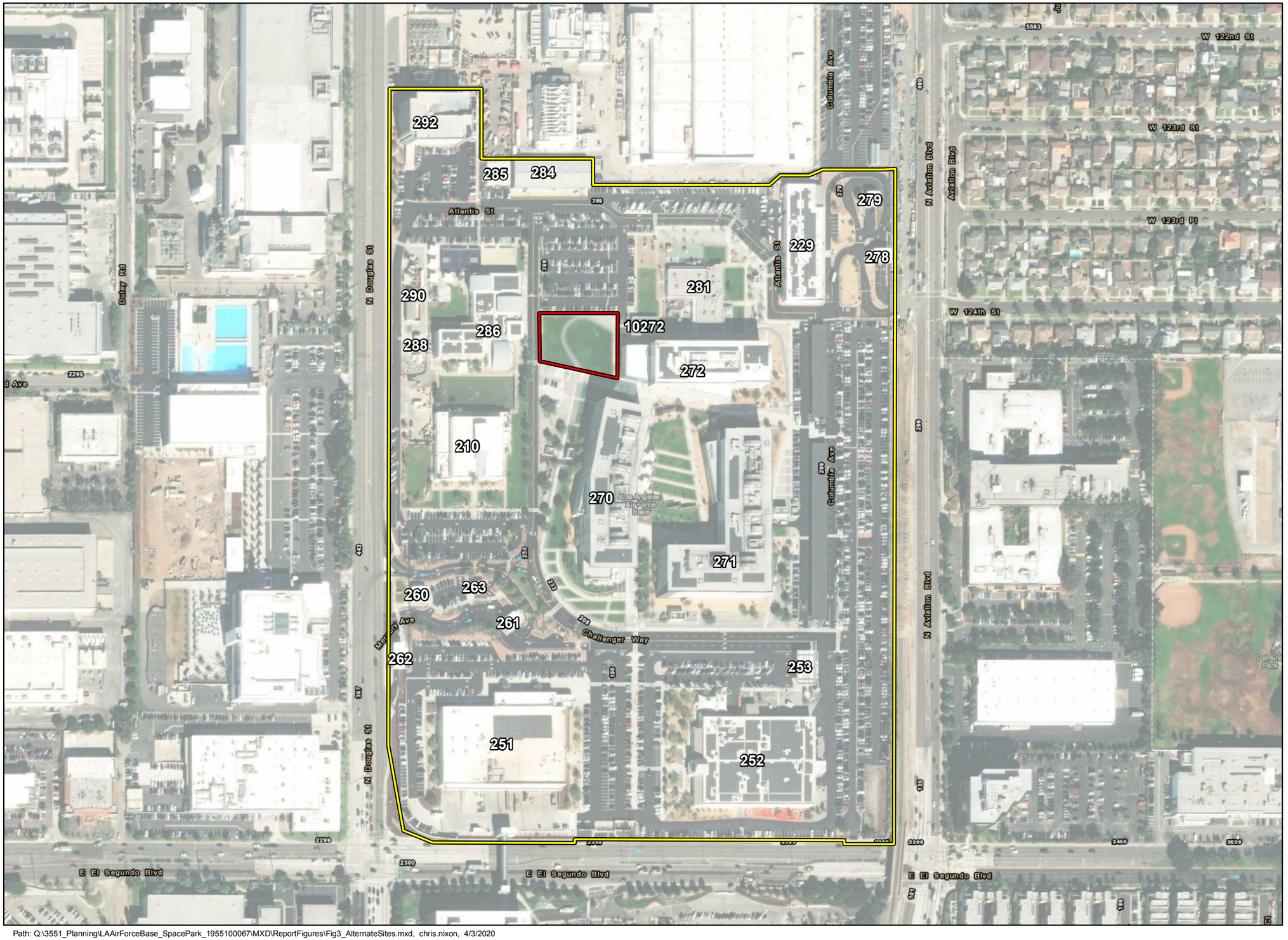
The construction timeline for the proposed Park is uncertain because the construction of pads and infrastructure cannot begin until SMC is gifted the artifacts. After the artifacts are gifted, there would be a 4-month design period followed by a 3- to 6-month construction period.

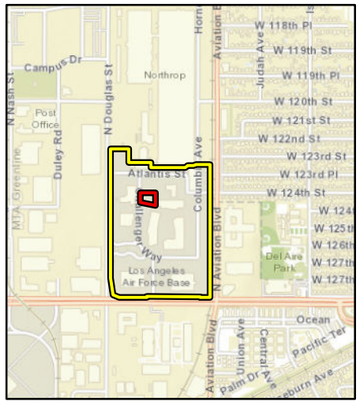


The proposed Park would be centered around the static displays, which would include informational plaques and educational signage. There would also be various seating and gathering areas to provide gathering space for SMC personnel, retirees, and visitors.

2.4.2 Alternative 2: No-Action Alternative

Under the No-Action Alternative, the existing manicured lawn and stormwater detention basin would remain undeveloped and there would be no changes to existing site topography and no impacts to on-site drainage features. If the proposed Park is not established, the SMC would continue to use the area as a jogging path, and the absence of an outdoor Space and Missile Park – directed by SMC leadership to ensure preservation of its heritage – would continue to limit MWR opportunities at the base.





Project Site

Base Boundary

1 inch = 250 feet

0 250 Feet

FIGURE 2-1

Project Site
Environmental Assessment
Los Angeles Air Force Base
Los Angeles. Ca.

wood.

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

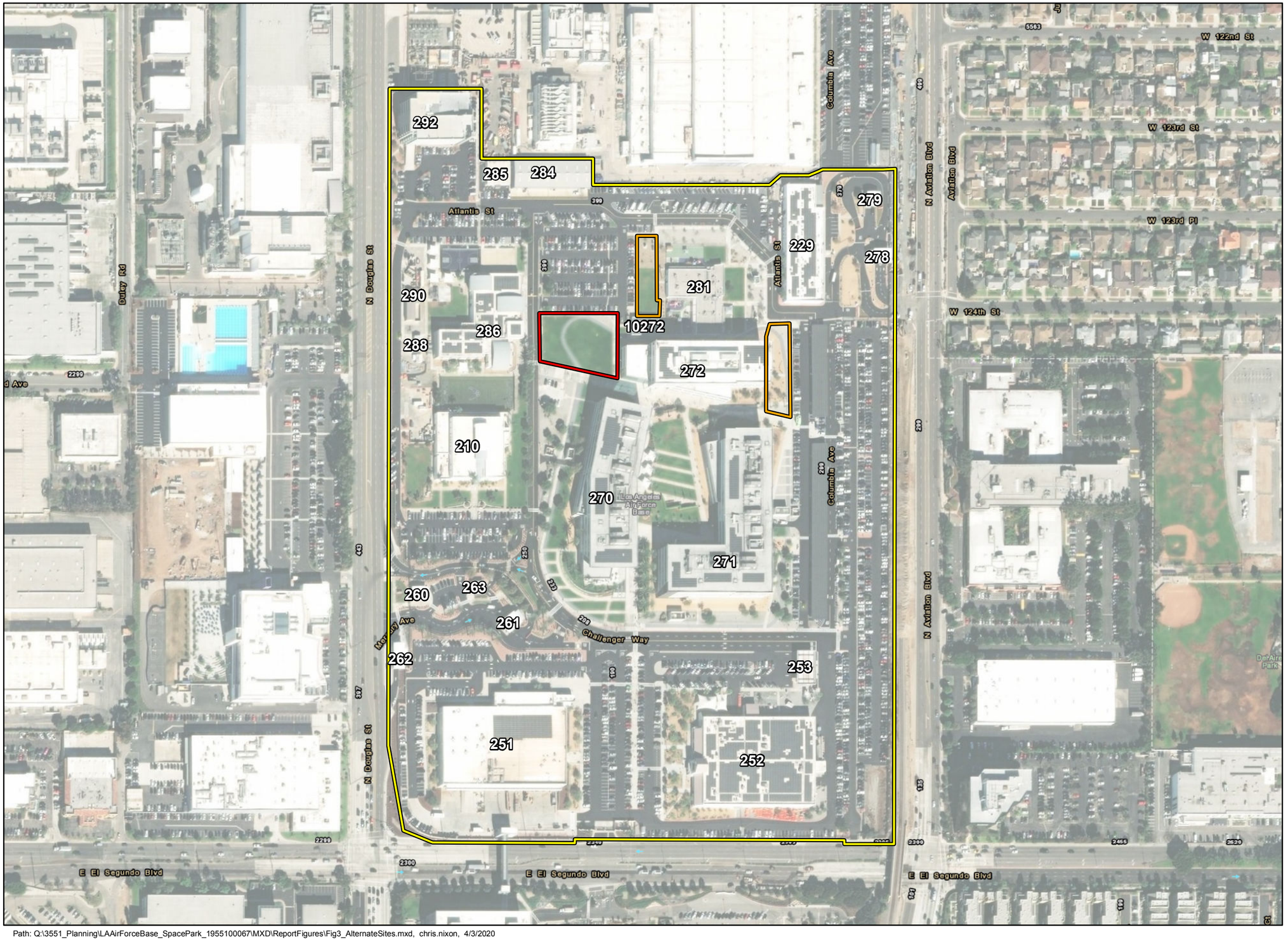
As summarized previously, space available at Los Angeles AFB is limited, and the 54-acre property is heavily developed, limiting potential siting alternatives for the develpoment of the proposed Park. Two alternative locations on the base were considered initially (see Figure 2-2) along with one dispersed location alternative. Potential locations at other bases associated with the USAF space-specific mission were also consisdered but determined not to meet the purpose and need (i.e., to commemorate and celebrate Los Angeles AFB's history and to provide needed on-base amenities to USAF personnel, their familes, and retirees).

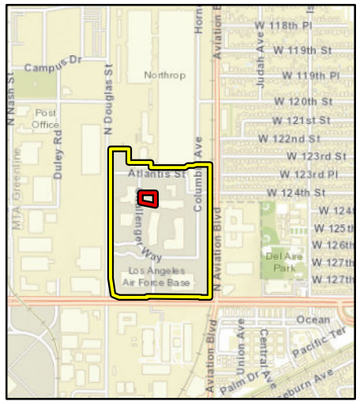
Alternative Location #1. Situated east of the main administartive area and adjacent to a surface parking lot, this alternative location was ultimately dismissed because of the presence of significant subsurface utilities at the site. Interruption of these subsurface utilities would disrupt the base's ability to continue existing operations during construction and/or accommodate future expansion as mission needs may require.

Alternative Location #2. Situated immediately to the northeast of the parcel proposed for development of the proposed Park (see Figure 2-2), this alternative location was dismissed because it is too small to support emplacement of the proposed static displays. Therefore, this alternative would not fully meet the established purpose and need of the Proposed Action. This site, which is a non-operational detention basin, is also immediately adjacent to the base's childcare and early childhood education center, which could result in potential conflicts during construction and operation of the Park.

Alternative Location #2 is a smaller site and is also located immediately adjacent to the early childcare center, which presents additional constraints to development of the proposed Park.

Alternative Location #3. The jogging loop is an approximately 0.5-mile-long route that surrounds the central core of the base and would potentially support a dispersed emplacement of individual artifacts at approximately 500-foot intervals. While this alternative would preserve the function of the existing drainage features, it would not meet the purpose and need to provide a unified gathering place for SMC personnel and visitors to enjoy the outdoors, improving morale and welfare at the base.





Project Site

Alternate Site Locations

Base Boundary

1 inch = 250 feet

0 250 Feet

FIGURE 2-2

Project Site and Alternative Locations Eliminated from Further Consideration Environmental Assessment Los Angeles Air Force Base Los Angeles. Ca.

wood.

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Table 2-1. Alternatives and Screening Standards Summary

Alternative		Purpose / Need	Planning				Capacity	Sustainability
			Operations	Natural	Built	Land Use		
Proposed Action to locate Park in existing detention basin		Yes / Yes	Yes	Yes	Yes	Yes	Yes	Yes
1	Locate Park east of administration area	Yes / Yes	No	Yes	No	Yes	No	No
2	Locate Park adjacent to childcare center in smaller detention basin	No / No	No	Yes	No	Yes	No	No
3	Locate artifacts throughout Los Angeles AFB along jogging path	No / No	Yes	Yes	Yes	Yes	Yes	Yes
No-Action	No Park is constructed	No / No	Yes	Yes	Yes	Yes	Yes	Yes

1

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SECTION 3
AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section describes relevant existing environmental conditions for resources potentially affected by the Proposed Action or its alternatives (see Section 4, *Environmental Consequences*). In the case of the Proposed Action at Los Angeles AFB, the affected environment description is limited locally to the base and regionally to Los Angeles County, California.

3.2 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

Consistent with CEQ regulations, the scope of analysis present in this EA is defined by the potential range of environmental impacts that would result from implementation of the Proposed Action or its alternatives. CEQ regulations (40 CFR §1501.7[a][3]) state that an agency shall *"identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (§1501.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere."*

Based on the outcomes of interagency coordination, Native American consultation, and other agency consultation, it was determined that there would be no potential for significant environmental impacts on the following resources:

- Land Use;
- Biological Resources;
- Noise;
- Geology and Soils;
- Cultural Resources;
- Hazardous Materials and Wastes;
- Safety;
- Socioeconomics; and
- Environmental Justice / Protection of Children.

Land Use. Land use decisions at Los Angeles AFB are guided by the base's Installation Development Program (IDP). As documented in the Air Force's DD Form 1391, the Proposed Action is compliant with the IDP and with AFI 84-103, *United States Air Force Heritage Program*. The proposed Park has been sited such that construction and maintenance activities would be compatible with designated land uses described for the base (e.g., the recreational jogging path on the affected parcel would remain intact and would continue to be available for use by base personnel immediately following the completion of construction activities). No substantially new operational activities would be introduced that could result in potential changes to existing land uses elsewhere on base. Other than the beneficial impacts of enhancing recreational and educational opportunities via the establishment of the proposed Park, there would be no impacts to or incompatibilities with existing land uses at Los Angeles AFB.

A Thor-Agena launch vehicle was previously on static vertical display at Los Angeles AFB from 1964 until 1975.

Biological Resources. The natural environment at and in the vicinity of Los Angeles AFB has changed dramatically as a result of and to accommodate the growing population and economic activities in the Los Angeles Basin. As described in Section 1.1, *Introduction*, the base is predominantly developed, with small landscaped areas (i.e., manicured lawns and planter beds) located at the entrance and around buildings and surface parking lots. The base does not support any undisturbed natural areas or provide any potential habitat for federally or state listed species. Therefore, establishment of the proposed Park, which would include landscaping with specimen trees and other native, drought-tolerant species, would not have the potential to adversely impact sensitive biological resources.

Noise. Construction and maintenance of the proposed Park at Los Angeles AFB would not result in a substantial short-term change or any long-term change in ambient noise levels at the base, which are dominated by surrounding industrial land uses and off-base traffic-related noise. Following completion of construction there would be no expansion of activities or operations that could result in additional long-term noise sources at the base; the proposed Park itself comprises a comparatively passive land use activity and visitors would not represent measurable sources of noise. Construction-related noise would be noticeable temporarily in the immediate vicinity of construction activities (e.g., grading, utilities trenching, construction of concrete foundations, etc.); however, these activities would be localized within the central core of the base and would not result in adverse impacts to sensitive receptors in the area (e.g., residences to the northeast of the base).

Further, the proposed facilities (e.g., static displays and passive recreational elements) would not be sited in an area with incompatible outdoor noise levels, For example, Los Angeles AFB is located approximately 1 mile south of LAX, outside the 65 decibel (dB) Community Noise Equivalent Level (CNEL) of Runway 25L and Runway 25R, and would not be affected by aircraft noise (LAX 2015).

Geology and Soils. Subsurface soils at Los Angeles AFB include silty fine sand from the ground surface to approximately 5 feet below ground surface (ft bgs) and clayey sand from a depth of 5 to 10 ft bgs. Fill material has been found overlying the natural soil at depths of ground surface to approximately 3 ft bgs. This material consists of dark brown to dark gray, clayey silt and is mapped by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) as Urban land-Thums-Windfet, 0 to 2 percent slopes (USAF 2007; NRCS 2020). While this soil unit is classified as "Prime Farmland if Irrigated," the existing development/pavement at the base has already removed soils from potential cultivation.

Los Angeles AFB has a relatively flat topography, with surface elevations ranging from 92 feet above mean sea level (MSL) along the southern edge of the property to 98 feet MSL along the north edge (USAF 2007). Construction and maintenance of the proposed Park would not extensively disturb native soils or lead to erosion and would not create or exacerbate a geological hazard to human health or the

environment. The County of Los Angeles Public Works Department recommends the following minimum depths of cover for utilities:

- 24 inches for service pipelines;
- 30 inches for all pipelines transporting nonhazardous substances;
- 30 inches for electrical facilities; and
- 42 inches for pipelines transporting hazardous substances.

Trenching associated with utilities operation would not result in significant impacts to underlying soils. Further, the construction of the proposed Park would not have any substantial impacts to unique geological features.

Cultural Resources. Native soils at Los Angeles AFB have been repeatedly disturbed during the initial development of the base in the 1950s and during more recent re-development of the base (refer to the *Geology and Soils* discussion). The 2018 Integrated Cultural Resources Management Plan for Los Angeles does not identify any archaeological resources on the base and states that the potential to uncover such resources is low (USAF 2018c). Further, per correspondence between the Air Force Civil Engineer Center (AFCEC) and the regional USAF Cultural Resources Subject Matter Expert, there are no cultural resources concerns regarding the project site and/or proposed Park (Carucci 2019). In the unlikely event that archaeological or traditional resources are encountered during site preparation or construction, all activities would be temporarily stopped until the resource(s) could be properly assessed and subsequent recommendations are provided by a qualified archeologist or other cultural resource specialist, as appropriate. In the event that human remains are discovered, the procedures and requirements set forth in 36 CFR §800.13, California Health and Safety Code §7050.5, and Public Resources Code §5097.98, which require notification of the County Coroner and the Native American Heritage Commission, would be implemented, as required.

Hazardous Materials and Wastes. Construction of the proposed Park would involve localized, short-term use of petroleum, oil, and lubricants (POLs) associated with heavy construction equipment. However, there would be no long-term change to

the inventory of POLs or plans and policies in place which establish procedures for the safe handling, storage, and transport of such materials. All activities at Los Angeles AFB, including the Proposed Action, are required to comply with the installation's existing Hazardous Waste Management Plan (2019). All of the artifacts that would be put on display at the proposed Park would be drained of potentially hazardous materials (e.g., POLs) prior to transport, assembly, and emplacement. Maintenance activities would involve gas- or electric-powered gardening equipment that would not introduce substantial volumes of POLs. Construction and operation of the proposed Park would not impact any active Environmental Restoration Program (ERP) sites. The Former Army Air Force Exchange Service Gas Station (Site Cleanup No. 0038G and Site ID No. 16636) has been closed with a No Further Action (NFA) letter received from the Los Angeles Regional Water Quality Control Board (RWQCB) on September 28, 2017. No other ERP sites or known areas of potential contamination exist at Los Angeles AFB (State Water Resources Control Board 2020).

Safety. Emplacement of the six artifacts in the proposed Project would include the design of concrete foundations that would follow all requirements of the Unified Facilities Criteria (UFC) as well as the California Building Code (CBC). As such, there would be no potential impacts related to structural stability of the static displays. Additionally, as described in the *Land Use* discussion above, the proposed Park would be compliant with the IDP, which takes into account Anti-Terrorism / Force Protection (AT/FP) criteria. Therefore, the Proposed Action would be consistent with *UFC Series 4-000, DoD Anti-Terrorism/Force Protection Standards & Security Engineering*.

Socioeconomics. Construction of the proposed Park would provide limited short-term socioeconomic benefits to the local economy, including temporary employment and small-scale materials purchases. However, such short-term beneficial impacts would be negligible on a regional scale and the proposed Park would result in no long-term changes in employment levels or economic activity at or in the vicinity of Los Angeles AFB.

Environmental Justice / Protection of Children. As described further in Section 4, *Environmental Consequences* the proposed Park would not result in any adverse environmental impacts to on- or off-base communities. Therefore, no populations

(i.e., minority, low-income, or otherwise) would be disproportionately or adversely impacted and no adverse impacts with regard to environmental justice would result. The area proposed for development would not be accessible to the public and standard construction site safety precautions (e.g., fencing and other security measures) would reduce potential risks to minimal levels. Given the proximity of the project site to the base's early childcare center, every feasible precaution (e.g., dust suppression) would be taken (see Section 4.3, *Water Resources* and Section 4.6, *Air Quality*); therefore, any potential impacts to children would be negligible. Following the completion of construction, the proposed Park would not result in increased exposure of children to environmental health risks or safety risks.

3.3 WATER RESOURCES

3.3.1 Definition of Resource

Water resources analyzed in this EA include surface water and groundwater. Natural surface water resources include lakes, rivers, and streams that collect and convey precipitation and surface water runoff. Human-created water collection systems include ditches, canals, and stormwater systems. Groundwater can be defined as subsurface water resources that are interlaid in layers of rock and soil and recharged by percolation. Other issues relevant to water resources include watershed areas affected by existing and potential hazards related to floodplains.

Water resources are vulnerable to contamination and degradation. For this reason, the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (CWA), was enacted to protect these resources. The Water Pollution Prevention and Control Act (33 USC Chapter 26), also known as the CWA Amendments, set the federal policy objective to "*restore and maintain the chemical, physical, and biological integrity of the Nation's waters.*" The CWA provides the authority to establish water quality standards, control discharges into surface water, develop waste treatment management plans and practices, and issue permits for discharges. A National Pollutant Discharge Elimination System (NPDES) permit – pursuant to Section 402 of the CWA – is required for discharges into navigable waters. The U.S. Environmental Protection Agency (USEPA)

oversees the issuance of NPDES permits at federal facilities as well as water quality regulations for surface waters within states, pursuant to Section 401 of the CWA.

Surface waters are defined by USEPA as Waters of the U.S. and are primarily lakes, rivers, estuaries, coastal water, and wetlands. Jurisdictional waters, including surface water resources as defined in 33 CFR §328.3, are regulated by the U.S. Army Corps of Engineers pursuant to Sections 401 and 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899.

The State of California, under delegated authority and oversight by USEPA, establishes policies and standards relative to managing the quality of Waters of the State. Water quality is managed by the State Water Resources Control Board, which is responsible for all aspects of planning, permitting, and monitoring to protect the state's water resources.

3.3.2 Existing Conditions

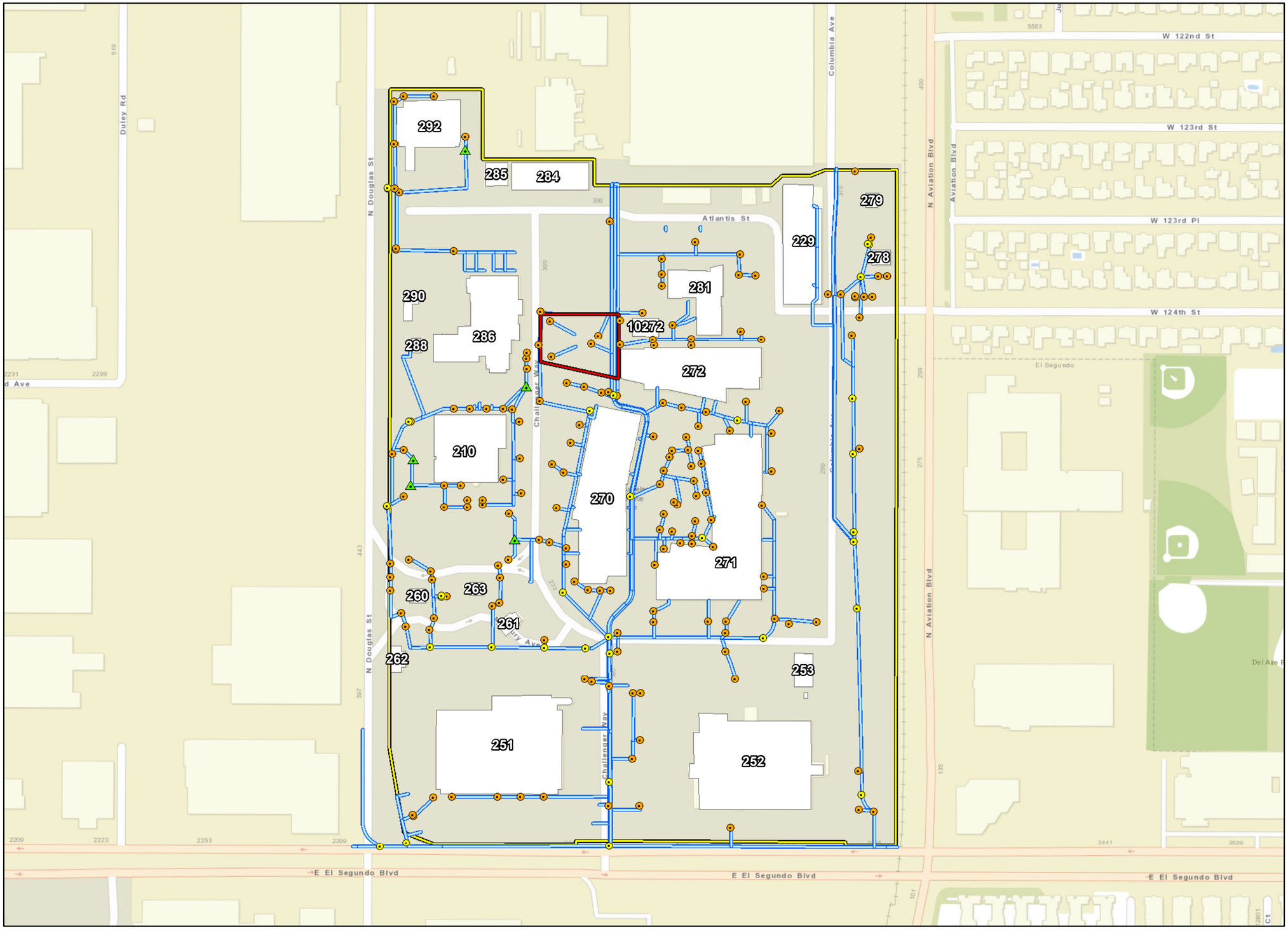
Surface Water

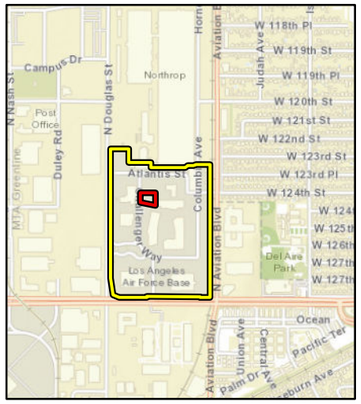
As described in the *Geology and Soils* discussion (refer to Section 3.2, *Scope of the Environmental Assessment*), Los Angeles AFB has a relatively flat topography. The base does not include any permanent surface water resources such as lakes, rivers, or streams. Further, the vast majority of Los Angeles AFB – approximately 91 percent (EarthTech 2005) – is covered by impermeable surfaces, including existing building footprints, asphalt surface parking lots, and concrete hardscape (e.g., sidewalks). Due to the small amount of exposed soils or permeable surfaces, there is very little infiltration. Rather, the majority of precipitation leaves the installation via evaporation or in the form of stormwater runoff. The stormwater runoff is collected in open catch basins and routed through an underground system of 4-inch to 36-inch vitrified clay, cast iron, or reinforced concrete pipes to the Los Angeles County Flood Control District storm drain system as depicted in Figure 3-1 (EarthTech 2005; USAF 2007).

The project site is located within the Central Drainage Basin, which includes 33 acres in the central core of Los Angeles AFB. This area drains to a mainline storm drain beneath Challenger Drive, which conveys stormwater to the south and connects to a 66-inch diameter storm drain located beneath El Segundo Boulevard (EarthTech 2005).

Stormwater flows is conveyed via a concrete-lined storm drain channel, through an underground double box culvert into the stormwater detention basin, where it is discharged into the large Los Angeles AFB and regional stormwater drainage system.

The project site includes a 0.32-acre stormwater detention basin, which captures stormwater runoff from neighboring surface parking lot immediately adjacent to the north. This stormwater detention basin has a total existing capacity of approximately 90,000 cubic feet (2.07 acre feet) Stormwater is conveyed to the stormwater detention basin via an underground double box culvert and passively pre-treated (e.g., allowing sediments to settle out of the water column) before being discharged to the Los Angeles AFB and regional stormwater systems. A smaller, non-functional stormwater detention basin is located immediately to the northeast of the project site but is not currently connected to the Los Angeles AFB stormwater system. This stormwater detention basin has a total existing capacity of approximately 21,000 cubic feet (approximately 0.49 acre feet).





- Project Site
- Base Boundary
- Manhole
- Inlet
- Control Valve
- Line Gravity

1 inch = 250 feet

0 250 Feet

FIGURE 3-1

Existing Stormwater Infrastructure
Environmental Assessment
Los Angeles Air Force Base
Los Angeles, Ca.

wood.

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Floodplains and Localized Flooding

Los Angeles AFB is not located within any designated floodplain, and the entire installation is designated as an Area of Minimal Flood Hazard – Zone X (Federal Emergency Management Agency [FEMA] 2008). However, a number of localized surface flooding areas have been identified within the Central Drainage Basin during large precipitation events (e.g., October and November 2004) (EarthTech 2005). This localized flooding was caused by storm drain blockages that have since been addressed or low points in the existing pavement that created small, temporary areas of standing water (EarthTech 2005). Flooding around Building 281 was attributed to flow in the mainline that could have caused water to back-up in the secondary line during heavy rainfall (EarthTech 2005).

Groundwater

Los Angeles AFB is located within the West Coast Hydrologic Subarea in the Coastal Plain of Los Angeles County Hydrologic Subunit. According to the California Division of Mines and Geology, the historic high groundwater level in the vicinity of the base is at a depth greater than 40 ft bgs. The subsurface hydrogeologic units in the region include the San Pedro Formation, the Lakewood Formation, and the Older Dune Sand unit. The Older Dune Sand is the uppermost water-bearing unit underlying Los Angeles AFB. It occurs as a semi-perched, unconfined aquifer, with groundwater flow generally in an east-to-west direction, toward the Pacific Ocean. Los Angeles AFB Environmental Staff indicated the depth to the water table at Los Angeles AFB is approximately 90 ft bgs (USAF 2003; 2007).

3.4 VISUAL RESOURCES

3.4.1 Definition of Resource

Visual resources are defined as the natural and manufactured features that comprise the aesthetic qualities of an area. These features form the overall impressions that an observer receives of an area or its landscape character. Landforms, water surfaces, vegetation, and manufactured features are considered characteristic of an area if they are inherent to the structure and function of a landscape.

High visual sensitivity exists in areas where views are rare, unique, or in other ways special, such as in a remote pristine environment. Highly sensitive views would include landscapes that have landforms, vegetative patterns, water bodies, or rock formations of unusual or outstanding quality.

Medium visual sensitivity is characteristic of areas where human influence and modern civilization are evident, and the presence of motorized vehicles is commonplace. These landscapes generally have features containing varieties in form, line, color, and texture, but tend to be more common than high visual sensitivity areas.

Low visual sensitivity areas tend to have minimal landscape features with little change in form, line, color, and texture.

3.4.2 Existing Conditions

The area surrounding Los Angeles AFB is fully developed with industrial businesses to the north, single-family residences to the northeast, and commercial and research and development businesses to the east, south, and west. Structures located immediately adjacent to the perimeter of the base range from single-story to multi-story glass and steel commercial office buildings. The Northrop Grumman facility – located immediately north of the base – is a large industrial plant comprised of several utilitarian industrial buildings approximately 50 feet in height.

Development surrounding Los Angeles AFB is characterized by commercial/industrial office parks including aerospace businesses such as Northrop Grumman and The Aerospace Corporation.

Los Angeles AFB includes three central multi-story office buildings, a multi-story parking structure, and other low-rise support buildings including additional office and administrative space as well as a medical clinic, base exchange, childcare

facility, and recreation center. The general character of the installation is similar to other surrounding corporate office parks with glass-fronted office buildings separated by greenspaces and walking paths. As described in the *Biological Resources* discussion (refer to Section 3.2, *Scope of the Environmental Analysis*), landscaping is limited to the entrance and around buildings and surface parking lots. The perimeter of the base is fenced with a combination of chain-link fencing and concrete block/wrought iron fencing, approximately 6 feet in height. The base can be considered as having low to medium visual sensitivity.

3.5 TRANSPORTATION AND CIRCULATION

3.5.1 Definition of Resource

Transportation and circulation refers to the movement of vehicles throughout a roadway and highway network. Primary roads include interstates, highways, and major arterials designed to move traffic but not necessarily to provide access to all adjacent areas. Secondary roads include minor arterials and collectors that provide access to residential, commercial, and industrial areas. The capacity of transportation networks and quality of circulation may be described in average daily traffic (ADT) volumes and/or Level of Service (LOS).

3.5.2 Existing Conditions

3.5.2.1 Regional and Local Circulation

Regional access to El Segundo / Hawthorne is provided by the San Diego Freeway (I-405) and the Glenn Anderson Highway (I-105). I-405 is one of the principal regional highways in Southern California, crossing the Los Angeles Basin in a north-south direction. I-105 extends west from I-605 and connects the interior of the Los Angeles Basin to LAX. Los Angeles AFB can be accessed via three major arterial streets: El Segundo Boulevard, a major arterial that can be accessed via the I-405 and I-105, as well as Aviation Boulevard and Douglas Street, minor arterials that provide local access.

El Segundo Boulevard is an east-west major arterial that forms the southern boundary of Los Angeles AFB. Within the vicinity of the base El Segundo Boulevard is approximately 90 feet in width, with three travel lanes in each

direction and left- and/or right-turn channelization at major intersections. Between Sepulveda Boulevard and Aviation Boulevard, El Segundo Boulevard carries more than 29,000 ADT. During the AM peak hours on El Segundo Boulevard, approximately 850 vehicles per hour travel eastbound and 2,100 vehicles per hour travel westbound in the immediate vicinity of Los Angeles AFB. During the PM peak hours, approximately 2,200 vehicles per hour travel eastbound and 900 vehicles per hour travel westbound in the immediate vicinity of Los Angeles AFB (USAF 2003, 2007).

Aviation Boulevard is a north-south major arterial that forms the eastern boundary of Los Angeles AFB. Within the vicinity of the base Aviation Boulevard is 72 feet in width and provides two lanes of traffic in both directions. Left-turn channelization is also provided on Aviation Boulevard at most intersections. Between El Segundo Boulevard and Imperial Highway, Aviation Boulevard carries approximately 23,000 ADT. During the AM peak hours on Aviation Boulevard, approximately 1,000 vehicles per hour travel northbound and 800 vehicles per hour travel southbound in the immediate vicinity of Los Angeles AFB. During the PM peak hours, nearly 1,300 vehicles per hour travel southbound and 1,400 vehicles per hour travel northbound in the immediate vicinity of Los Angeles AFB (USAF 2003, 2007).

Douglas Street is a secondary arterial that forms the western boundary of Los Angeles AFB. Within the vicinity of the base, Douglas Street is 102 feet in width with three travel lanes in each direction and left- and/or right-turn channelization at major intersections. Between Imperial Highway and El Segundo Boulevard, Douglas Street carries over 10,000 ADT. During the AM peak hours on Douglas Street, approximately 500 vehicles per hour travel northbound in the vicinity of Los Angeles AFB. During the PM peak hours, approximately 700 vehicles travel northbound in vicinity of Los Angeles AFB (USAF 2003, 2007).

Existing LOS data for arterial intersections in the County of Los Angeles are compiled in the County of Los Angeles Congestion Management Program (CMP) (Los Angeles County Metropolitan Transportation Authority 2010).

In 2009, the intersection of Sepulveda Boulevard and El Segundo Boulevard operated at LOS C during the AM peak hours and LOS D during the PM peak

hours (Los Angeles County Metropolitan Transportation Authority 2010). LOS at this intersection has improved over time since 1992 when it operated at LOS F during the AM and PM peak hours (Los Angeles County Metropolitan Transportation Authority 2010).

Table 3-1. Levels of Service for Arterial Intersections

LOS	Volume to Capacity (V/C) Ratio	Operating Conditions
A	0.00 – 0.60	At LOS A, there are no cycles that are fully loaded, and few are even close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	>0.60 – 0.70	LOS B represents stable operation. An occasional approach phase is fully utilized, and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.
C	>0.70 – 0.80	In LOS C stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication, and back-ups may develop behind turning vehicles.
D	>0.80 – 0.90	LOS D encompasses a zone of increasing restriction, approaching instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive back-ups.
E	>0.90 – 1.00	LOS E represents the most vehicles that any particular intersection approach may accommodate. At capacity (V/C = 1.00) there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
F	>1.00	LOS F represents jammed conditions. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration, hence, volumes carried are not predictable. V/C values are highly variable because full utilization of the approach may be prevented by outside conditions.

Source: Los Angeles County Metropolitan Transportation Authority 2010

According to the CMP, the expected hourly capacity for an intersection with dual turn lanes is a total of 2,880 vehicles. Based on the existing LOS and expected capacity, it is estimated that traffic volume through the intersection of Sepulveda Boulevard and El Segundo Boulevard is:

AM Peak Hours: LOS C (V/C = 0.70 to 0.80) * 2,880 = 2,016 to 2,304 trips

PM Peak Hours: LOS D (V/C = 0.80 to 0.90) * 2,880 = 2,304 to 2,592 trips

Mass transit to the region is provided by public transportation, rail service, airports, and ports. The closest major airports serving the Los Angeles Basin are LAX, Hollywood-Burbank Airport, Long Beach Airport, John Wayne International Airport, Ontario International Airport, and numerous smaller airports and general aviation airfields including the neighboring Hawthorne Municipal Airport. There are also several public transportation organizations including Los Angeles County Metropolitan Transportation Authority. The Green Line light rail route connects Norwalk to Redondo Beach and passes through El Segundo with the El Segundo Station within 0.5 mile (i.e., walking distance) from the entrance to Los Angeles AFB.

3.5.2.2 Transportation and Circulation at Los Angeles AFB

Principal access to the base is via the entrance off Douglas Street with a secondary, secured entrance in northeast portion of the base, off Aviation Boulevard. Interior circulation within Los Angeles AFB is provided by two- to four-lane surface streets including Challenger Way, Columbia Avenue, and West 124th Street (refer to Figure 2-1).

Parking at Los Angeles AFB includes approximately 2,300 parking spaces dispersed across the existing surface lots around the perimeter of the base and a multi-story parking structure in the northwest corner of the base. The existing parking structure was completed as the first of three phases, with later phases expected to add approximately 550 additional spaces, necessary to provide parking for the base's growing workforce.

3.6 AIR QUALITY

3.6.1 Definition of Resource

Air quality in a given location is determined by the concentration of various pollutants and particulates in the atmosphere; conditions are generally expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and prevailing meteorological conditions. The Clean Air Act (CAA) (42 USC §§7401-7671[q]) requires that emission sources must comply with air quality standards and regulations established by federal, state, and county regulatory agencies. These standards and regulations focus on the maximum allowable ambient pollutant concentrations and the maximum allowable emissions from individual sources.

National Ambient Air Quality Standards (NAAQS) are established by the USEPA for six criteria pollutants, including: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter equal to or less than 10 micrometers in aerodynamic diameter (PM_{10}) and 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$), and lead (Pb). NAAQS represent maximum levels of background pollution considered safe for public health and the environment, with an adequate margin of safety and are shown in Table 3-2. The California Air Resources Board (CARB) is the state agency delegated by the USEPA to administer and implement air quality standards and protection in the State of California.

Table 3-2. National and California Ambient Air Quality Standards

Pollutant [Final Rule Citation]		Primary/ Secondary	Averaging Time	Federal Standard
Carbon Monoxide [76 CFR Part 54294, Aug 31, 2011]		P	8-hour	9 ppm
			1-hour	35 ppm
Lead [81 CFR Part 71906, Oct 18, 2016]		P & S	Rolling 3-month average	0.15 µg/m^3
			30-day	
Nitrogen Dioxide [75 CFR Part 6474, Feb 9, 2010] [77 CFR Part 20218, Apr 3, 2012]		P	1-hour	100 ppb
		P & S	Annual	53 ppb
Ozone [80 CFR Part 65292, Oct 26, 2015]		P & S	8-hour	0.070 ppm
			1-hour	--
Particulate Pollution [78 CFR Part 3085, Jan 15, 2013]	$PM_{2.5}$	P	Annual	12 µg/m^3
		S	Annual	15 µg/m^3
		P & S	24-hour	35 µg/m^3
	PM_{10}	P & S	24-hour	150 µg/m^3
			Annual	--
Sulfur Dioxide [84 CFR Part 9866, Mar 18, 2019] [77 CFR Part 20218, Apr 3, 2012]		P	1-hour	75 ppb
		S	3-hour	0.5 ppm
			Annual	--
Sulfates			24-hour	--
Hydrogen sulfide			1-hour	--
Vinyl chloride			24-hour	--
Visibility reducing particles			8-hour (10 am to 6 pm)	--

Notes:
FR = Federal Register
ppm = parts per million
ppb = parts per billion
µg/m^3 = micrograms per cubic meter
Sources: USEPA 2019b

The Clean Air Act Amendments of 1990 (CAAA) place most of the responsibility to achieve compliance with NAAQS on individual states. Areas not in compliance with any of the NAAQS can be declared *nonattainment* areas by the USEPA. Nonattainment areas are declared for each pollutant addressed by the NAAQS. Once the USEPA declares an area as nonattainment, the USEPA requires each state to prepare a State Implementation Plan (SIP). A SIP is a compilation of goals, strategies, schedules, and enforcement actions that will lead the state into

compliance with the NAAQS. Should the state and local air agencies fail to develop adequate SIPs, then the USEPA will develop a Federal Implementation Plan to remedy the state's failure. In order to reach *attainment*, NAAQS may not be exceeded more than once per year. A nonattainment area can reach attainment when NAAQS have been met for a period of 10 consecutive years. During this time period, the area is in *maintenance*.

Under 40 CFR Part 93, the USEPA issued conformity regulations that mandate the federal government not engage, support, or provide financial assistance for licensing, permitting, or approval of any activity that does not conform to an approved SIP or Federal Implementation Plan. This rule applies to all federal actions except for those projects requiring funding or approval from the U.S. Department of Transportation, Federal Highway Administration, Federal Transit Administration, or Metropolitan Planning Organization; such projects must instead comply with the conformity rules established by the U.S. Department of Transportation. The General Conformity Rule establishes conformity as a process in which economic, environmental, and social aspects of transportation and air quality planning are considered. This rule applies to any federal action that results in direct or indirect emissions for criteria pollutants in a nonattainment or maintenance area.

3.6.2 Existing Conditions

3.6.2.1 Regional Climate

Los Angeles AFB is located in Southern California, and is characterized by average temperatures ranging from approximately 56.6 degrees Fahrenheit (°F) in December to approximately 69.6°F in August (National Oceanic and Atmospheric Administration [NOAA] 2019). Mean annual rainfall is approximately 12.82 inches, with the majority occurring between the months of October and March (NOAA 2019). This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds.

Winds in the vicinity of Los Angeles AFB are typically generated by the land/sea breeze circulation system, with daytime onshore sea breezes changing to offshore breezes at night. These winds control the rate and direction of pollution dispersal.

The Los Angeles Basin has strong temperature inversions that limit the vertical depth through which pollution can be mixed.

3.6.2.2 Local Air Quality

CARB has delegated much of its air pollution control authority to local air pollution control districts and air quality management districts. Each air district has jurisdiction over air quality in an air basin or portion of an air basin. The South Coast Air Quality Management District (SCAQMD) is has regulatory authority and is responsible for monitoring air quality in the Los Angeles Basin.

Table 3-3. NAAQS Attainment Status – South Coast Air Basin (Los Angeles County)

Emissions Type	NAAQS
1-Hour Ozone	Nonattainment (Extreme)
8-Hour Ozone	Nonattainment (Extreme)
Carbon Monoxide	Attainment (Maintenance)
Nitrogen Dioxide	Attainment (Maintenance)
Sulfur Dioxide	Unclassifiable / Attainment
Particulate Matter (PM_{10})	Attainment (Maintenance)
Particulate Matter ($PM_{2.5}$)	Nonattainment (Serious)

Notes: Lead - Nonattainment (Partial) – The Los Angeles County portion of Basin is currently in nonattainment for near-source monitors. Re-designation to attainment is anticipated based on current monitoring data.
Sources: USEPA 2019a

Table 3-4 presents the most recently available baseline emissions inventory of criteria pollutants for Los Angeles County from the 2014 National Emissions Inventory Report (USEPA 2014).

Table 3-4. 2014 Emissions for Los Angeles County

Location and Emission Type	CO (tpy)	SO_2 (tpy)	NO_x (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Los Angeles County Portion of South Coast Air Basin					
Stationary and Mobile Source Emissions	465,023	5,442	98,652	38,977	17,508

Note: Criteria pollutants measured in tons per year (tpy). NO_x and VOCs are the primary criteria pollutants that contribute to the formation of O_3 for which Los Angeles County is currently in *nonattainment*.

Source: USEPA 2014.

3.6.2.3 Emissions at Los Angeles Air Force Base

Air quality management at USAF installations is established in AFI 32-7040, *Air Quality Compliance*. AFI 32-7040 requires installations to achieve and maintain compliance with all applicable federal air quality standards.

Under the CAA, the Title V Operating Permit Program imposes requirements for air quality permitting on air emission sources. However, Los Angeles AFB does not operate under a Title V Operating Permit issued by SCAQMD as it is not a major source of criteria pollutants.

SECTION 4
ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

Potential environmental impacts that could result from the implementation of the Proposed Action and its alternatives are identified and evaluated in this section. The issues analyzed in detail are listed in Section 1.6, *Scope of the Environmental Assessment*. These issues are presented below in the same order that they are described in Section 3, *Affected Environment*. As described in Section 3.2, *Scope of the Environmental Assessment*, resources that would have no impacts or negligible impacts with the implementation of the Proposed Action and its alternatives are not examined in further detail within this EA.

As described in Section 2, *Description of the Proposed Action and Alternatives*, the Proposed Action includes the development of an outdoor Space and Missile Park at Los Angeles AFB involving the emplacement of six artifacts as well and landscaping and hardscaping improvements. Alternatives to the Proposed Action were considered; however, none of these alternatives would satisfy the purpose and need for the project (refer to Table 2-1) and therefore were not carried forward for further analysis. Nevertheless, because CEQ regulations stipulate that the No-Action Alternative must be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented, the No-Action Alternative has also been carried forward for analysis and provides a baseline against which the Proposed Action can be compared.

4.2 SIGNIFICANCE OF IMPACTS

CEQ regulations (40 CFR §1508.27) specify that significance should be determined in relationship to both context and intensity (i.e., severity). The assessment of potential impacts and the determination of their significance are based on the requirements of 40 CFR §1508.27. Three levels of impact have been identified:

- *No impact* – No short- or long-term impacts would occur;
- *Less than significant impact* – A short- or long-term impact would occur, but the impact would not meet the context and intensity significance criteria for the resource; and

- *Significant impact* – A short- or long-term impact would occur that meets or exceeds the context and intensity significance criteria for the resource.

4.3 WATER RESOURCES

4.3.1 Approach to Analysis

Determination of the significance for potential impacts to water resources is based on water supply, surface water quality, existence of floodplains and wetlands, and associated regulations and policies. The Proposed Action and its alternatives would have a significant impact to water resources if they would:

- Reduce water availability to or interfere with the supply of existing users;
- Adversely affect water quality or endanger the public health by creating or worsening adverse health hazard conditions above federal or state water quality standards;
- Degrade surface Waters of the U.S. by deposition of dredge or fill material beyond limits set by permitting agencies;
- Modify a floodway or substantially alter a floodplain, diverting floodwaters to areas previously outside the 100-year floodplain; or
- Create or contribute to overdraft of groundwater basins or exceed safe annual yield of water supply sources.

4.3.2 Impacts

4.3.2.1 Proposed Action

Surface Water

Potential sources of short-term, construction-related stormwater pollution associated with the Proposed Action include: 1) earth-moving activities which may result in soil erosion and sedimentation within the Los Angles AFB stormwater system; 2) handling, storage, and disposal of construction materials containing POLs; and 3) operation and maintenance of construction equipment on-site.

The implementation of the Proposed Action would disturb less than 1 acre and therefore, a General Construction Activity Storm Water Permit would not be

required. Nevertheless, standard construction BMPs would be implemented (i.e., good site management "housekeeping," erosion control, sediment control, run-on and runoff controls). These BMPs – including silt fencing, soil stockpiling, dust suppression, construction worker education – would ensure that short-term construction impacts to water quality both at the project site and in the Los Angles AFB stormwater system would be negligible.

Potential sources of long-term impacts to stormwater flows under the Proposed Action at Los Angeles AFB would result from the removal of the existing 0.32-acre stormwater detention basin. As described in Section 2.4.1, *Alternative 1: Proposed Action – Space and Missile Park* detailed design and engineering of the proposed Park has not yet been completed. A drainage plan for the proposed Park shall be prepared prior to the initiation of construction-related activities and shall include detailed hydrology/hydraulic calculations as well as recommendations for specific drainage improvements. The drainage plan shall also identify the additional BMPs to be implemented in compliance with the requirements of the Standard Urban Storm Water Mitigation Plan and the City of El Segundo Municipal Code. The drainage plan will be shared with state and local agencies (e.g., Los Angeles Regional Water Quality Control Board, Los Angeles County Flood Control District, City of El Segundo, etc.), as appropriate.

SMC is currently considering an array of options to offset the loss of the 0.32-acre stormwater detention basin, including redirecting a portion of stormwater flows from the surface parking lot to the smaller 0.16-acre stormwater detention basin located northeast of the Project site. This basin is currently inactive but functional and could be used on a short-term or permanent basis. Redirecting stormwater flows to this location may require additional improvements (e.g., upsizing of the mainline to avoid localized flooding during heavy rainfall). Another option under consideration is the construction of an underground stormwater vault beneath the proposed Park or the existing surface parking lot to the north. Construction of an underground stormwater vault would result in additional ground disturbance, excavation, trenching, and soil export. Beyond the removal of the existing stormwater detention basin and associated changes to drainage within the existing surface parking lot to the north, the Proposed Action would not result in the alteration of any other drainage basins or stormwater drainage features at Los Angeles AFB. Given the relatively small area of the existing 0.32-acre stormwater

detention basin and the proposed offset with appropriate replacement stormwater infrastructure, the Proposed Action would have a less than significant impact on surface water resources.

Floodplains

As described in Section 3.3, *Water Resources* Los Angeles AFB is not located within any designated floodplain. Additionally, construction of the proposed Park – including the preparation of a drainage plan and redirecting stormwater flows from the adjacent surface parking lot to the north, would not directly result in or compound localized surface flooding areas within the Central Drainage Basin. Therefore, the Proposed Action would have a less than significant impact on floodplains.

Groundwater

Under the Proposed Action, grading and site preparation activities would neither involve deep excavations that have the potential to compromise local aquifers, nor would it involve direct additions or withdrawals of groundwater that would result in a contribution to overdraft of a groundwater basin. Therefore, the Proposed Action would have a less than significant impact on groundwater resources.

4.3.2.2 No-Action Alternative

If the No-Action Alternative were selected, no changes to the existing stormwater detention basin would occur. Consequently, no changes to local stormwater runoff would occur, and conditions would remain as described in Section 3.3, *Water Resources*. Therefore, there would be no impacts to water resources under the No-Action Alternative.

4.3.3 Proposed BMPs

The following BMPs would be implemented in order to further reduce less than significant water quality impacts as a result of the implementation of the Proposed Action and evacuation would include the following:

- A drainage plan shall be prepared and shall include detailed hydrology/hydraulic calculations and recommendations for drainage improvements. The plan shall also identify the proposed BMPs to be implemented in compliance with the requirements of the Standard Urban Storm Water Mitigation Plan and the City of El Segundo Municipal Code.

- Standard construction BMPs shall be implemented (e.g., good site management "housekeeping," erosion control, sediment control, run-on and runoff controls).

- During construction and operation of the proposed Park, all waste shall be disposed of in accordance with all applicable laws and regulations. Properly labeled recycling bins shall be utilized for recyclable construction materials including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and vegetation. Non-recyclable materials and wastes shall be taken to an appropriate landfill. Toxic wastes shall be discarded at a licensed, regulated disposal site by a licensed waste hauler.

4.4 VISUAL RESOURCES

4.4.1 Approach to Analysis

Determination of the significance for impacts to visual resources is based on the level of visual sensitivity in the area, which is defined as the degree of public interest in a visual resource and concern over adverse changes in the quality of that resource. In general, an impact to a visual resource is significant if implementation of an action would result in substantial alterations to an existing, sensitive visual setting.

4.4.2 Impacts

4.4.2.1 Proposed Action

Under the Proposed Action, development of the proposed Park would alter the existing visual character of Los Angeles AFB. The manicured lawn immediately north of Building 270, which currently serves as a stormwater detention basin, would be redeveloped with six rocket and missile artifacts as well as landscaping and hardscaping improvements. The proposed artifacts would be emplaced in both vertical and horizontal exhibits, with the tallest artifact expected to be a Falcon 9 rocket standing at approximately 90 feet. Given their height, one or more of the artifacts would be visible from all locations on Los Angeles AFB except for

some locations to the east and southeast of the proposed Park, which would be screened by the three central multi-story office buildings. The vertical artifact displays would also be visible to off-base viewers, including the residences to the northeast, but would be partially screened by the perimeter fencing and existing low-rise buildings. Further, while construction of the proposed Park would include new lighting – particularly along the pathways and in the seating areas – light fixtures would be downcast and dimly lit. These light fixtures would generally not be noticeable within the context of the existing commercial and industrial development on the base and in the immediate vicinity. Therefore, the introduction of new light fixtures would not introduce a substantial new source of light or glare to adjacent office and administrative spaces or residences to the northeast.

The proposed Park would be unique within the immediate viewshed surrounding Los Angeles AFB which is fully developed with commercial and industrial uses. However, a Thor-Agena launch vehicle was on static vertical display at Los Angeles AFB from 1964 until 1975. Further, another large static rocket display (i.e., another Falcon 9 similar to that proposed for the proposed Park) currently exists at the SpaceX facility at the intersection of Crenshaw Boulevard and Jack Northrop Avenue, approximately 3 miles east of the base. Even though the proposed rocket and missile artifacts would differ from the characteristic office park nature of Los Angeles AFB, the displays would be consistent with the mission and history of the base; further, they would be educational and decorative in nature and would not adversely affect or reduce the low to medium visual sensitivity of the base. Therefore, while both on- and off-base viewsheds would be altered by implementation of the Proposed Action, impacts to visual resources would be less than significant.

4.4.2.2 No-Action Alternative

If the No-Action Alternative were selected, the proposed Park would not be constructed. Consequently, no changes to the local viewshed would occur and conditions would remain as described in Section 3.4, *Visual Resources*. Therefore, there would be no impacts to visual resources under the No-Action Alternative.

4.4.3 Proposed BMPs

The *Los Angeles Air Force Base Installation Facilities Standards* (2018) include a number of BMPs that would ensure that the Proposed Action would not result in visual resource impacts as a result of construction and operation of the Park. For example, light pollution control measures would include the following:

- All new light sources would be directed down and shielded to prevent light pollution outside of Los Angeles AFB.

4.5 TRANSPORTATION AND CIRCULATION

4.5.1 Approach to Analysis

Potential impacts to transportation and circulation are assessed with respect to anticipated disruption or improvement of current transportation patterns and systems; deterioration or improvement of existing levels of service; and changes in existing levels of transportation safety. Beneficial or adverse impacts may arise from physical changes to circulation (e.g., closing, rerouting, or creating roads), construction activity, changes in daily or peak-hour traffic volumes created by installation workforces and population changes, or changes in on-base parking availability. Adverse impacts on roadway capacities would be significant if roads with no history of exceeding capacity began to operate at or above their final full design capacity, if LOS of existing roadways worsened as a direct result of implementing the Proposed Action, or if the Proposed Action would reduce available parking or increase parking demand such that the base's parking needs would not be met. Additionally, according to the CMP (Los Angeles County Metropolitan Transportation Authority 2010), significant impacts occur if the Proposed Action increases traffic demand on a CMP facility by 2 percent of capacity where a facility is already designated LOS F or if the 2 percent demand increase would result in a facility being designated LOS F.

4.5.2 Impacts

4.5.2.1 Proposed Action

Implementation of the Proposed Action would require delivery of materials and construction equipment to the project site at Los Angeles AFB. Due to the limited

size of the project site (i.e., less than 1 acre), anticipated construction traffic would be limited to one grader, one trencher, one loader, one dump truck, one roller, one crane truck, and one cement truck. The grader, trencher, loader, and roller would remain on-base for the duration of site preparation and grading activities; whereas, the dump truck, crane truck, and cement truck would arrive and leave each day on an as-needed basis (e.g., the crane truck would only be needed to lift and install artifacts and would not be present during site preparation activities). Additionally, the size of the construction crew is not expected to exceed 15 personnel. Therefore, total daily trips during the construction phase are anticipated to average approximately 36 trips per day split between the AM and PM peak hours (i.e., 3 construction equipment trips and 15 construction worker trips during AM peak hours and the same number of trips during PM peak hours).

As described, in Section 3.5.2.1, *Regional and Local Circulation*, the estimated number of trips through the nearest CMP-studied intersection (i.e., Sepulveda Boulevard and El Segundo Boulevard) is between 2,304 and 2,880 trips during AM peak hours and between 2,304 and 2,592 trips during the PM peak hours. The Proposed Action would result in a significant impact if it resulted in a 2 percent increase (or greater) in trips during the AM peak hours or PM peak hours:

AM peak hour trips: 0.02 * 2,016 to 0.02 * 2,304 = 41 to 47 trips

PM peak hour trips: 0.02 * 2,304 to 0.02 * 2,592 = 46 to 52 trips

The construction traffic associated with the Proposed Action is anticipated to result in approximately 18 trips during the AM and PM peak hours, which would be below the significance threshold values for the nearby intersection of Sepulveda Boulevard and El Segundo Boulevard. Further, these trips would be short-term and would be limited to the 3- to 6-month construction period (refer to Section 2.4.1, *Alternative 1: Proposed Action – Space and Missile Park*).

Beyond typical construction equipment and delivery traffic, the Proposed Action includes emplacement of several large rocket and missile artifacts that would require oversized transport vehicles for delivery to Los Angeles AFB. The most likely transit route to the project site would be via westbound I-105 to southbound Sepulveda Boulevard to eastbound El Segundo Boulevard, and to either

northbound Douglas Street or Aviation Boulevard. Each artifact delivery would require use of an oversized transport vehicle – if the individual artifacts need to be delivered intact – that would comply with all California Department of Transportation regulations and local traffic laws. Further, oversized deliveries to Los Angeles AFB would be required to occur outside of the AM and PM peak hours (7:00 to 9:00 AM and 4:00 to 6:00 PM, respectively).

In the event that construction staging or the construction of an underground stormwater vault is required in the surface parking lot immediately adjacent to the north of the project site, there would be a short-term loss of parking on the base (up to 139 spaces). However, vehicles could continue to park in the other surface parking lots or the multi-story above ground parking structure on the base during the 3- to 6-month construction period. Additionally, public transit options (e.g., Green Line light rail) would continue to be available throughout the 3- to 6-month construction period.

Following the completion of the construction phase, the proposed Park would neither generate a substantial number of additional trips to Los Angeles AFB nor would it substantially reduce the number of available parking spaces. The proposed Project is intended to provide a gathering place for SMC personnel and visitors to enjoy the outdoors, improving morale and welfare at the base. Visitors to the proposed Park would be primarily active duty and retired USAF service members and their families from the Los Angeles Basin who already visit Los Angeles AFB as their only local USAF installation with available medical clinic and base exchange services.

Since the Proposed Action would add fewer trips than the threshold for AM and PM peak hours during construction and operation of the proposed Park, no significant impacts would occur.

4.5.2.2 No-Action Alternative

If the No-Action Alternative were selected, there would be no changes to existing traffic patterns, parking facilities, or demand for parking at Los Angeles AFB and conditions would remain as described in Section 3.5, *Transportation and Circulation*. Therefore, there would be no impacts to transportation and circulation under the No-Action Alternative.

4.5.3 Proposed BMPs

The following BMPs, although not required to reduce potential impacts to less than significant levels, would be implemented in order to further reduce short-term, construction-related transportation and circulation impacts as a result of the implementation of the Proposed Action. Construction traffic control measures to be implemented during earthmoving and evacuation would include the following:

- Delivery of oversized construction equipment and materials and rocket and missile artifacts shall occur outside of the AM and PM peak hours in the vicinity of Los Angeles AFB (7:00 to 9:00 AM and 4:00 to 6:00 PM).

- Oversized deliveries shall be coordinated with California Department of Transportation and appropriate local jurisdictions to ensure appropriate permits are procured and any necessary traffic control measures are implemented during delivery.

4.6 AIR QUALITY

4.6.1 Approach to Analysis

The CAAA require that federal agency activities conform to the SIP with respect to achieving and maintaining attainment of NAAQS and addressing air quality impacts. The USEPA General Conformity Rule requires that a conformity analysis be performed which demonstrates that federal actions do not: 1) cause or contribute to any violation of any NAAQS; 2) interfere with provisions in the SIP for maintenance or attainment of any NAAQS; 3) increase the frequency or severity of any existing violation of any NAAQS; or 4) delay timely attainment of any NAAQS, any interim emission reduction goals, or other milestones included in the SIP. Provisions in the General Conformity Rule allow for exemptions from performing a conformity determination only if total emissions of individual nonattainment area pollutants resulting from an action fall below the *de minimis* threshold values.

AFI 32-7040, *Air Quality Compliance and Resource Management*, provides a framework for ensuring that USAF actions conform to appropriate implementation plans and requirements. Section 3.4 of AFI 32-7040, *Conformity*

Rule Planning, ensures that such actions conform to the applicable implementation plan through the USEPA General Conformity Rule. Section 3.5 of AFI 32-7040, *NEPA and Environmental Impact Analysis Process Planning*, outlines requirements under NEPA for analysis of air quality impacts with respect to the Prevention of Significant Deterioration/New Source Review (40 CFR Part 51), and emissions of any other pollutants regulated under the CAA, such as ozone-depleting substances. Direct and indirect emissions of criteria pollutants or their precursors associated with the Proposed Action must be calculated for all non-exempt emission sources, including mobile and stationary emissions and assessed relative to established *de minimis* standards for attainment, maintenance, and nonattainment areas by pollutant as set forth in 40 CFR §93.153(b) (see Table 4-1). In order to ensure compliance with all applicable regulations, an air quality analysis was conducted using the USAF's Air Conformity Applicability Model to estimate air emissions associated with construction of the proposed Park.

Table 4-1. South Coast Air Basin Attainment Status and de minimis Threshold Values

Criteria Pollutant	Attainment Status	*de minimis* Threshold (tons per year [tpy])
Ozone (Volatile Organic Compounds [VOCs] or NO_x)	Nonattainment (Extreme)	10
Carbon Monoxide	Attainment (Maintenance)	100
Nitrogen Dioxide	Attainment (Maintenance)	10
Sulfur Dioxide	Unclassified / Attainment	70
PM_{10}	Attainment (Maintenance)	100
$PM_{2.5}$	Nonattainment (Serious)	70

4.6.2 Impacts

4.6.2.1 Proposed Action

The air quality analysis was conducted to ensure consistency with NAAQS and because there would be no long-term operational emissions associated with the Proposed Action once construction is complete. The Proposed Action is located in the Los Angeles County portion of the South Coast Air Basin which is designated *nonattainment* for ozone and particulate matter and is subject to *de minimis* thresholds for a General Conformity determination. The net change in emissions

associated with the Proposed Action were compared against General Conformity *de minimis* values as an indicator of significance (see Table 4-1).

Air emissions associated with the construction of the proposed Park would include fugitive dust emissions during ground disturbance and related site preparation activities, and combustion emissions from vehicles and heavy-duty equipment during installation. As described the Section 2.4.1, *Alternative 1: Proposed Action – Space and Missile Park*, the Proposed Action includes the grading of the existing manicured lawn and stormwater detention basin and replacement with hardscape and landscaping. It is assumed that grading, site preparation, and concrete work will require approximately 8 weeks of construction work with 5 working days per week at 8 hours per work day while artifact installation will require an additional 4 weeks, with a similar schedule.[2] The entire construction period is estimated to require 15 daily full-time construction workers during this timeframe.

Construction – Fugitive Dust Emissions

Under the Proposed Action, fugitive dust would be generated during ground-disturbing activities, including site preparation, clearing, and grading. Fugitive dust would also be generated by construction-related vehicles and heavy equipment. Dust emissions generated by such activities can vary substantially depending on levels of activity, specific operations, and prevailing meteorological conditions. It is assumed that emissions resulting from construction-related activities would be reduced through standard dust suppression practices – including soil stockpiling and regularly watering exposed soils (refer to Section 4.3, *Water Resources*). These dust suppression practices can reduce dust generation by up to 50 percent (USEPA 2006).

It has been estimated that implementation of the Proposed Action would disturb a total area of approximately 0.70 acre. This conservative estimate accounts for site preparation activities, materials staging, and heavy equipment storage, which may occur outside of and adjacent to the proposed project footprint (e.g., within the

[2] As described in Section 2.4.1, *Alternative 1: Proposed Action – Space and Missile Park*, after the artifacts are gifted, there would be a 4 month design period followed by a 3- to 6-month construction period. However, the 3- to 6-month construction period would involve short periods of down time for materials delivery, concrete setting, inspections, etc.

surface parking lot to the north). Emissions calculations provided in Appendix D conservatively assume all construction activities would occur in the same year (i.e., FY 2020). The total amount of uncontrolled dust – including both PM_{10} and $PM_{2.5}$ – generated by proposed construction and demolition activities would be as much as 0.385 tpy with the implementation of standard dust suppression practices.

Although any increase in dust generation is inherently adverse, implementation of standard dust suppression measures would limit the total quantity generated during construction. Additionally, increased fugitive dust emissions associated with the Proposed Action would be short-term and temporary, lasting for a period of 3 to 6 months. Therefore, air quality impacts associated with fugitive dust would be minor and less than significant.

Construction – Combustion Emissions

Operation of construction equipment with internal combustion engines, and off-site vehicles (e.g., construction employee vehicles, etc.) would result in emission of criteria air pollutants (i.e., CO, N_2O, O_3, SO_2, and particulate matter [PM_{10} and $PM_{2.5}$]). In addition to on-site construction emissions, minor regional emissions associated with haul truck trips for the delivery of supplies/materials and removal of solid waste (e.g., any construction debris) would also occur under the Proposed Action. Emissions associated with construction equipment (e.g., grader, backhoe, dozer, etc.) would be minimal because most equipment would be driven to and kept on-site for the duration of construction activities. Additionally, equipment would be shut off when not in use. Emissions associated with construction worker commutes and the transportation of materials would also be minimal given the relatively small-scale and temporary nature of the activities.

Table 4-2 describes annual combustion emissions anticipated as a result of projects included in the Proposed Action. For a full list of assumptions and emission factors see Appendix D. Impacts due to combustion emissions from construction are generally not considered significant because they are temporary and of short duration. Anticipated combustion emissions during construction activities would remain below *de minimis* threshold values and result in less than significant, short-term impacts to air quality.

Table 4-2. Potential Annual Emissions from Construction and Worker Commute-Related Combustion under the Proposed Action for 2020

Construction Activity	O_3[1] (tpy)	CO (tpy)	NO_x (tpy)	SO_x (tpy)	$PM_{2.5}$ (tpy)	PM_{10} (tpy)
Total Emissions (tpy)	0.575	0.461	0.495	0.001	0.024	0.361
de minimis thresholds	10	100	10	70	70	100
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
tpy = tons per year
[1] O_3 is additive of VOC and NO_x
See Appendix D for calculations and a detailed description of assumptions.

Operational Emissions

Under the Proposed Action, there would be no measurable changes to operations at Los Angeles AFB. As such, there would be no long-term changes to emissions or air quality conditions at Los Angeles AFB related to the proposed Park. Minor emissions associated with gas- or electric-powered gardening equipment would be negligible. The implementation of the Proposed Action would neither cause an exceedance of NAAQS nor exceed a *de minimis* threshold for any criteria pollutant. Therefore, operational emissions under the Proposed Action would have no impact on long-term air quality and operational emissions would remain similar to those described in Section 3.6, *Air Quality*.

General Conformity

As described in Section 3.6.2.2, *Local Air Quality*, Los Angeles County is currently designated as a *nonattainment* area by the USEPA for the following NAAQS criteria pollutants: O_3 and $PM_{2.5}$ (refer to Table 3-3) (USEPA 2019). Consequently, emissions from construction and operations activities associated with the Proposed Action are subject to *de minimis* thresholds for a General Conformity determination related to these pollutants. However, based on a review of the expected construction emissions including construction equipment and construction worker commutes, the Proposed Action would not generate air emissions in excess of any General Conformity *de minimis* threshold.

4.6.2.2 No-Action Alternative

If the No-Action Alternative were selected, there would be no construction-related emissions. Consequently, no changes to local air quality would occur and conditions would remain as described in Section 3.6, *Air Quality*. No further determination is required to document compliance with the General Conformity Rule. Therefore, there would be no impacts to air quality under the No-Action Alternative.

4.6.3 Proposed BMPs

The following BMPs, although not required to reduce potential impacts to less than significant levels, would be implemented in order to further reduce short-term, construction-related air quality impacts as a result of the implementation of the Proposed Action. Fugitive dust and air quality control measures to be implemented during excavation, trenching, grading, and other earth-moving activities would include the following:

- All construction equipment would be maintained in good operating condition to minimize exhaust emissions.
- Vehicular traffic associated with construction and operation activities would remain on paved areas to the maximum extent practicable.
- Vehicle speed would be limited on unpaved surfaces.
- All excavated, graded, or unpaved areas would be watered to prevent excess dust generation.
- Where soil is excavated during construction, displaced soils would be stockpiled.
- Idling equipment would be shut off when not in use.

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SECTION 5
CUMULATIVE IMPACTS

Cumulative impacts result from "incremental impacts of an individual action when combined with other past, present, and reasonably foreseeable future projects in an affected area. Cumulative impacts generally result from minor, but collectively substantial, actions undertaken over a period of time by various agencies (e.g., federal, state, or local) or persons" (40 CFR §1508.7). In accordance with NEPA, a discussion of cumulative impacts resulting from projects proposed, under construction, recently completed, or anticipated to be implemented in the near future is required.

5.1 CUMULATIVE IMPACTS ANALYSIS

5.1.1 Approach to Cumulative Impacts Analysis

Cumulative effects may occur when there is a relationship between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the Proposed Action can be reasonably expected to have more potential for cumulative effects on shared resources than potential actions that may be geographically separated. Similarly, actions that coincide temporally would tend to offer a greater potential for cumulative effects. CEQ regulations require that potential cumulative impacts consider past, present, and reasonably foreseeable future actions (CEQ 1997).

Per CEQ guidelines for considering cumulative effects under NEPA (CEQ 1997), this cumulative impact analysis includes three primary considerations to:

1. Determine the scope of the cumulative analysis, including relevant resources, and geographic extent;
2. Conduct the cumulative effects analysis; and
3. Determine the cumulative impacts to relevant resources.

The Proposed Action is limited to construction of the proposed Park at Los Angeles AFB. As such potential impacts associated with the Proposed Action would be limited to short-term, temporary impacts during construction activities, which would last for a period of 3 to 6 months. As described in Section 4,

Environmental Consequences, The Proposed Action is not expected to have any long-term impacts associated with operation of the proposed Park.

5.1.2 Cumulative Projects Off-Base

5.1.2.1 Local Past, Present, and Future Development

All of the proposed grading, site preparation, concrete work, and artifact emplacement work included in the Proposed Action would occur within the developed area in the central core of Los Angeles AFB. As such, other than negligible, short-term, temporary increase in air emissions, the Proposed Action would not have a noticeable effect on local off-base conditions in the City of El Segundo.

The City of El Segundo Planning Department publications – including project approvals and environmental documentation compliant with the California Environmental Quality Act and Cumulative Projects List – were reviewed for other planned, recently approved, or in-process development projects in the vicinity of Los Angeles AFB to identify potentially cumulative effects related to the Proposed Action. These projects were assessed for their potential to contribute cumulatively to impacts to water resources, visual resources, transportation and circulation, and air quality. These projects include:

- Top Golf Entertainment Facility – Approved by El Segundo City Council with certified Environmental Impact Report (EIR) located at 400 S. Pacific Coast Highway, approximately 0.75 mile west of the Project site. The EIR identified potentially significant impacts to Air Quality, Hazards / Hazardous Materials, and Noise with identified measures to mitigate these impacts to less than significant levels.

- Beach Cities Media Campus – Draft EIR prepared to document potential impacts related to the construction of a 5-story, 240,000-sf office building including media studios located at 2021 Rosecrans Street, approximately 1 mile southwest of the Project site. The Draft EIR identified potentially significant, but mitigable, impacts to Cultural Resources, Tribal Cultural Resources, Greenhouse Gases, Hazards / Hazardous Materials, Water Resources, Noise, Transportation and Circulation, and Public Services.

Various small residential development have been determined by the City of El Segundo to be exempt from consideration under CEQA and therefore would be expected to have no impacts or negligible impacts as considered under NEPA.

Each of the large development projects for which an EIR was prepared include potentially significant impacts to resources as well as mitigation measures that would reduce impacts to less than significant levels over the short- and long-term. As such, neither temporary construction-related impacts at Los Angeles AFB nor long-term operational impacts associated with the Proposed Action would contribute substantially to cumulative impacts associated with any of these projects.

5.1.3 Cumulative Projects at Los Angeles AFB

For the purposes of this EA, a review of recently completed, in-progress, and planned construction and demolition projects was conducted. The projects described below have been completed or are currently planned for development at Los Angeles AFB in the next 10 years:

5.1.3.1 Phases 2 and 3 of Parking Structure

Los Angeles AFB has plans to construct / expand an existing multi-level parking structure in the northwest corner of the base to accommodate additional parking for the 61st Air Base Group, SMC, and other military and civilian personnel.

Existing parking provided for Los Angeles AFB staff is distributed throughout the base in surface parking lots and a multi-story parking structure. With a total of 2,342 parking spaces on-base, along with an identified need to accommodate 500 additional personnel, additional parking is needed at Los Angeles AFB. The existing parking structure was constructed as the first of three phases in a program that will expand parking supply on-base. The construction / expansion of the multi-level parking structure in the northwest corner of the base would occupy and replace existing surface parking lots.

While the Proposed Action would result in short-term, temporary construction-related impacts, construction activities would be completed in FY 2020 and would

not substantially interact with or contribute to potential cumulative impacts associated with longer-term development at Los Angeles AFB.

5.1.3.2 Perimeter Lighting Upgrade Project

In order to reduce security vulnerabilities and comply with Anti-Terrorism Executive Committee requirements, Los Angeles AFB plans to construct perimeter security lighting around the entire installation. In planning this project, interested members of the public requested that lighting not affect off-base properties.

While the Proposed Action would result in short-term, temporary construction impacts, construction activities would be completed in FY 2020 and would not substantially interact with or contribute to potential cumulative impacts associated with longer-term development at Los Angeles AFB. Additionally, as with the Proposed Action BMPs from the *Los Angeles Air Force Base Installation Facilities Standards* (2018) would be incorporated into the design of this project to ensure that lighting upgrades do no impact off-base viewers and properties.

5.1.3.3 Construct SMC Sensitive Compartmented Information Facility (SCIF)

Los Angeles AFB has plans to construct a new SCIF to be housed within a new four-story structure with basement with space for up to 500 personnel and parking. All construction activities would occur within base boundaries and the building would be designed to be consistent with existing Los Angeles AFB character.

While the Proposed Action would result in short-term, temporary construction-related impacts including fugitive dust, construction activities would be completed in FY 2021 and would not substantially interact with or contribute to potential cumulative impacts associated with longer-term development at Los Angeles AFB.

5.1.4 Cumulative Impact Analysis

Implementation of the Proposed Action would involve grading, site preparation, concrete work, and emplacement of as many as six artifacts. The Proposed Action

would also require removal and grading of an existing manicured lawn and stormwater detention basin. Under the Proposed Action construction, demolition, and installation activities would occur in FY 2020.

The following resource analyses address potential impacts associated with cumulative project activities in addition to the Proposed Action at Los Angeles AFB. No significant cumulative impacts would result from implementation of the Proposed Action, when evaluated in conjunction with the projects identified above in Section 5.1.3, *Cumulative Projects at Los Angeles Air Force Base*.

5.1.4.1 Water Resources

Implementation of the Proposed Action would result in grading and removal of the existing manicured lawn and stormwater detention basin. With implementation of various design options, BMPs, and compliance with state and local agency regulations and policies, the Proposed Action would not significantly contribute to adverse impacts to water resources. Other cumulative construction projects have the potential for impacts on water resources (e.g., stormwater runoff during construction or increases in impervious surface areas); however, as with the Proposed Action each of these projects would be required to comply with state and local regulations and implement project-specific BMPs to limit the potential for impacts to water quality. Therefore, the Proposed Action along with the other identified cumulative projects, with proper implementation of BMPs and compliance with state and local regulations, would not contribute substantially to any potential cumulative impacts to water resources.

5.1.4.2 Visual Resources

Implementation of the Proposed Action would result in the addition of rocket and missile artifacts that would be visible from on- and off-base viewing locations. While the artifacts would be unique additions to the local viewshed, they would not be considered an adverse impact to visual resources in the vicinity (refer to Section 4.4, *Visual Resources*). While the other cumulative construction projects have the potential to result in alterations to the local viewshed through additional nighttime lighting (e.g., perimeter lighting upgrade project) or additional parking and office structures, BMPs to control off-base lighting issues would be

implemented and any new structures would be consistent with the existing visual character of Los Angeles AFB. Therefore, the Proposed Action along with the other identified cumulative projects would not contribute substantially to any potential cumulative impacts to visual resources.

5.1.4.3 Transportation and Circulation

Implementation of the Proposed Action would result in the construction of the proposed Project and would not include any long-term alterations to roadway configurations, traffic, or parking availability at Los Angeles AFB. As such, the Proposed Action would not significantly contribute to potential cumulative adverse impacts to parking and circulation at Los Angeles AFB. Cumulative construction projects at Los Angeles AFB would result in provision of additional parking spaces via construction / expansion of the multi-level parking structure in the northwest corner of the base. Therefore, the Proposed Action along with the other identified cumulative projects would not contribute substantially to any potential adverse cumulative impacts to transportation and circulation.

5.1.4.4 Air Quality

Implementation of the Proposed Action would result in a short-term temporary increase in construction-related fugitive dust and combustion emissions. However, implementation of these projects as well as all individual cumulative projects would be required to implement standard construction BMPs to reduce fugitive dust and combustion emissions during construction activities to acceptable levels below *de minimis* thresholds (refer to Section 4.6.3, *Proposed BMPs*). As shown in Table 4-2 in Section 4.1, *Air Quality*, construction emissions associated with the Proposed Action would not exceed *de minimis* thresholds. As such, the Proposed Action would not significantly contribute to potential cumulative construction impacts at Los Angeles AFB. While the other cumulative construction projects have the potential to result in impacts to air quality (e.g., through fugitive dust), BMPs to control these issues would be implemented and impacts to air quality are expected to remain similar. Further, the Proposed Action would not result in any long-term increase in operational air emissions. Therefore, the Proposed Action would not contribute substantially to any potential cumulative impacts to regional air quality.

5.1.5 Relationship Between Short-Term Uses and Enhancement of Long-Term Productivity

CEQ regulations (40 CFR §1502.16) specify that environmental analyses must address the relationship between short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Special attention should be given to impacts that narrow the range of beneficial uses of the environment in the long-term or pose a long-term risk to human health or safety. A short-term use of the environment is generally defined as a direct consequence of an action in its immediate vicinity. Changes to long-term productivity generally refer to negative impacts to the long-term quality of the land, air, or water.

The Proposed Action would primarily involve the use of a previously developed area at Los Angeles AFB which is itself located within a developed portion of the Los Angeles Basin characterized by urban residential, commercial, and industrial development and no existing agricultural lands. Additionally, as discussed in Section 4.3, *Water Resources*, Section 4.4, *Visual Resources*, Section 4.5, *Transportation and Circulation*; and Section 4.6, *Air Quality*, BMPs would be implemented to ensure that impacts to natural and built resources would be kept to a minimum. No croplands, pastureland, or wetlands would be modified or affected as a result of implementing the Proposed Action and, consequently, productivity of the area would not be degraded.

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SECTION 6
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SECTION 7
LIST OF PREPARERS

This EA was prepared for the USAF, under the direction of AFCEC, 61st Air Base Group, and SMC, by Wood Environment & Infrastructure Solutions, Inc. (Wood). Members of Wood's professional staff are listed below:

Project Management

Doug McFarling, NEPA Program Manager
B.A. Environmental Studies

Nick Meisinger, Project Manager
B.S. Environmental Science

Technical Analysts

Matt Sauter, Lead Environmental Analyst
M.S. Paleontology / B.A. Geology

Production

Janice Depew
Production

Deirdre Stites
Graphic Artist

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APPENDIX A
INTERAGENCY CONSULTATION CORRESPONDENCE

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 61st AIR BASE GROUP (USSF)
LOS ANGELES AIR FORCE BASE, CALIFORNIA

MEMORANDUM FOR CARLSBAD FISH AND WILDLIFE OFFICE
Attn: Mr. Scott Sobiech
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

FEB 0 6 2020

FROM: 61 CELS/CEI
Los Angeles Air Force Base
483 N. Aviation Blvd.
El Segundo, CA 90245

Dear Mr. Sobiech,

The 61st Air Base Group (ABG) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S. Code [USC] §§4331 et seq.) to evaluate the potential environmental impacts of a proposed outdoor Space and Missile Park (Park) at Los Angeles Air Force Base (AFB).

The Proposed Action would involve the construction of the proposed Park on approximately 25,500 square feet (sf) of manicured lawn immediately north of Building 270 in the central core of the base (see Figure 1). Site development would require grading of the existing manicured lawn, which currently serves as a storm water detention basin, and replacement with landscaping and hardscape (i.e., cast-in-place concrete paving, decomposed granite, decorative rock cobble, etc.). While several details are still under development, the conceptual designs for the proposed Park call for up to six rocket and missile artifacts displayed in either vertical or horizontal alignment (e.g., Falcon 9 [vertical], Minuteman [vertical], and Peacekeeper [horizontal]). Each static display – including required concrete foundations – would be engineered individually based on the specific artifact to be installed. Each of the static displays would feature informational plaques and educational signage. There would be two formal entrances to the proposed Park – one of which would be compliant with the Americans with Disabilities Act of 1990 (ADA) – and there would be several seating areas, with shade trees intended to provide inviting areas for congregation. There would also be multiple features incorporated into the design of the proposed Park to ensure safety (e.g., downcast pathway lighting) and to minimize impacts to surface water flows (e.g., use of permeable surfaces).

The construction timeline for the proposed Park is uncertain because the siting and construction of concrete and infrastructure cannot begin until Space and Missile Systems Center (SMC) is gifted the artifacts. After the artifacts are gifted, there would be a 4-month design period followed by a 3- to 6-month construction period.

The attached official species list – generated using the U.S. Fish and Wildlife's (USFWS's) Information for Planning and Consultation (IPaC) system – identified the federally endangered California least tern (*Sterna antillarum browni*), federally threatened coastal California gnatcatcher

(*Polioptila californica californica*), federally endangered least Bell's vireo (*Vireo bellii pusillus*), federally threatened western snowy plover (*Charadrius nivosus nivosus*), and federally listed El Segundo blue butterfly (*Euphilotes battoides allyni*) as having potential to occur within Los Angeles AFB.

Los Angeles AFB was originally developed in the 1940s and 1950s, resulting in substantial modification of the existing topography and removal of existing native vegetation. This 54-acre property is completed developed with building footprints, asphalt surface parking lots, concrete hardscapes, and landscaping. Wildlife habitat is limited to landscaped trees and shrubs and indirectly impacted by roadway noise and industrial noise from surrounding land uses. The base does not provide coastal habitat for California least tern or western snowy plover. Additionally, the base does not provide coastal sage scrub habitat for coastal California gnatcatcher, riparian habitat for least Bell's vireo, or coast buckwheat (*Eriogonum parvifolium*), the host plant for El Segundo blue butterfly. Further, all ground-disturbing activities associated with the Proposed Action would be limited to the existing 25,000-sf manicured lawn, which currently serves as a stormwater detention basin. Additionally, construction staging would occur on the paved parking lot located immediately adjacent to the north. Therefore, the U.S. Air Force has determined that there would be "no effect" to federally listed species.

We understand that it is not necessary to contact the USFWS regarding a "no effect" determination. Nevertheless, we respectfully request your concurrence with our finding of "no effect" within 30 days of your receipt of this letter. If your office chooses to send written comments, please address them to Mr. Joshua Jones, 61 CELS Environmental, 483 N. Aviation Blvd. El Segundo, CA 90245. You may also e-mail your comments to joshua.jones.81.ctr@us.af.mil. If you choose to e-mail comments, please include "Space and Missile Park at Los Angeles Air Force Base" in the subject line. Thank you for your assistance.

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NICHOLAS ARELLANO, Capt, USAF
Installation Management Flight Chief

2 Tabs:

1. Figure 1. Project Site and Dismissed Locations
2. USFWS IPaC Official Species List

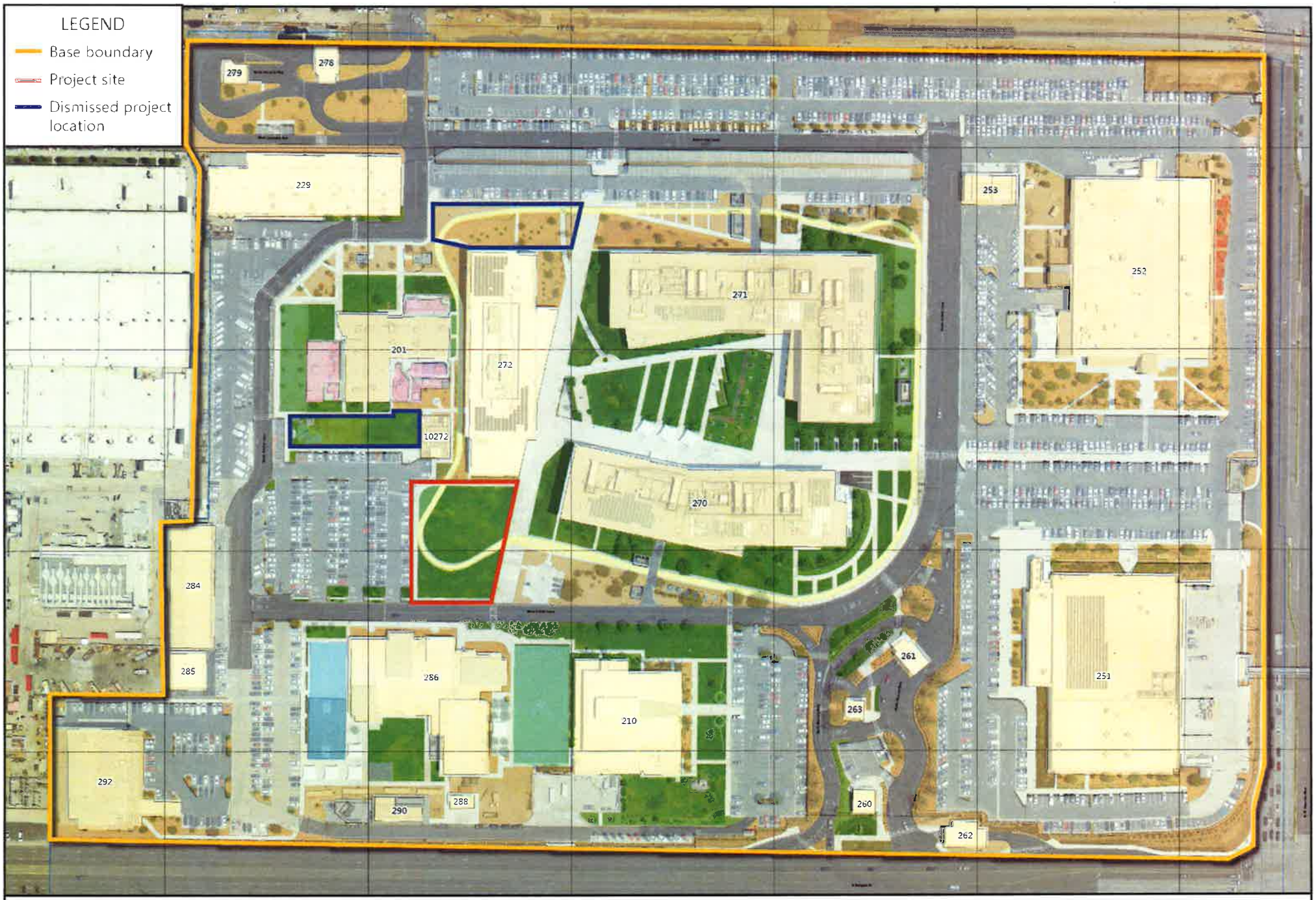

Figure 1. Project Site and Dismissed Locations

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To:
Consultation Code: 08ECAR00-2020-SLI-0503
Event Code: 08ECAR00-2020-E-01215
Project Name: Proposed Space and Missile Park

January 29, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2020-SLI-0503

Event Code: 08ECAR00-2020-E-01215

Project Name: Proposed Space and Missile Park

Project Type: FILL

Project Description: Construction of an outdoor Space and Missile Park. Site develop ment would require grading of the existing manicured lawn and stormwater detention basin and replacement with hardscape and landscaping. Hardscape (i.e., cast-in-place concrete paving, decomposed granite, decorative rock cobble, etc.) would be installed along with irrigation and drainage systems.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.92013083202016N118.3814070565796W

Counties: Los Angeles, CA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Insects

NAME	STATUS
El Segundo Blue Butterfly *Euphilotes battoides allyni*	Endangered

There is **proposed** critical habitat for this species. The location of the critical habitat is not available.

Species profile: https://ecos.fws.gov/ecp/species/3135

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Southwest Region
2800 Cottage Way, Room W-2606
Sacramento, California 95825-1846

In Reply Refer to:
FWS/R8/AES

DEC 0 6 2013

Memorandum

To: Ecological Services Project Leaders, Region 8

From: Acting Assistant Regional Director, Ecological Services, Region 8

Subject: Regional Policy on "No Effect" Determinations

As you know, the implementing regulations for section 7 of the Endangered Species Act do not require a Federal action agency to obtain written concurrence from the Service if they determine that their proposed action will not affect listed species or critical habitat, nor do these regulations provide a legal mechanism for the Service to concur with such a determination. Recently, Region 8 has been involved in litigation related to actions for which the action agency requested our concurrence with their "no effect" determination. It is apparent that further clarification is needed on this issue.

Although periodic, interagency coordination on the proper analytical framework for effect determinations is important, given our budget and staffing constraints, it is also imperative that we prioritize our section 7 workload to focus our efforts on those activities that we are legally mandated to complete. If your staff review these requests, even though the section 7 handbook contemplates that the Service may concur on an action agency's "no effect" determination, as a matter of regional policy do not provide concurrence or non-concurrence in writing (including e-mail). You should acknowledge that we have no regulatory or statutory authority for concurring with "no effect" determinations and remind the requester that it is the action agency's responsibility to make effect determinations for compliance with section 7(a)(2).

If an action agency requests technical assistance on an effect determination, you are encouraged to assist insofar as your workload and staffing constraints allow consistent with our priorities. I encourage you to continue using innovative methods for communicating best available information to action agencies to assist them in making well-informed determinations, such as through the posting of species accounts and other guidance on your field office websites.

If you have any questions on this policy, please contact Jana Affonso at 916-414-6593.

cc:
Region 8 ARDs

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 61st AIR BASE GROUP (USSF)
LOS ANGELES AIR FORCE BASE, CALIFORNIA

MEMORANDUM FOR OFFICE OF HISTORIC PRESERVATION

FEB 0 6 2020

Attn: Mr. Ed Carroll
1725 23rd Street, Suite 100
Sacramento, CA 95816
(916) 445-7000

FROM: 61 ABG/CEI
Los Angeles Air Force Base
483 N. Aviation Blvd.
El Segundo, CA 90245

Dear Mr. Carroll,

The 61st Air Base Group (ABG) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S. Code [USC] §§4331 et seq.) to evaluate the potential environmental impacts of a proposed outdoor Space and Missile Park (Park) at Los Angeles Air Force Base (AFB).

The proposed undertaking would involve the construction of the proposed Park on approximately 25,500 square feet (sf) of manicured lawn immediately north of Building 270 in the central core of the base. Site development would require grading of the existing manicured lawn, which currently serves as a storm water detention basin, and replacement with landscaping and hardscape (i.e., cast-in-place concrete paving, decomposed granite, decorative rock cobble, etc.). While several details are still under development, the conceptual designs for the proposed Park call for up to six rocket and missile artifacts displayed in either vertical or horizontal alignment (e.g., Falcon 9 [vertical], Minuteman [vertical], and Peacekeeper [horizontal]). Each static display – including required concrete foundations – would be engineered individually based on the specific artifact to be installed. Each of the static displays would feature informational plaques and educational signage. There would be two formal entrances to the proposed Park – one of which would be compliant with the Americans with Disabilities Act of 1990 (ADA) – and there would be several seating areas, with shade trees intended to provide inviting areas for congregation. There would also be multiple features incorporated into the design of the proposed Park to ensure safety (e.g., downcast pathway lighting) and to minimize impacts to surface water flows (e.g., use of permeable surfaces).

The construction timeline for the proposed Park is uncertain because the siting and construction of concrete and infrastructure cannot begin until Space and Missile Systems Center (SMC) is gifted the artifacts. After the artifacts are gifted, there would be a 4-month design period followed by a 3- to 6-month construction period.

The Area of Potential Affect (APE) for this for this undertaking includes the project site in the central core of the base (see Figure 1). Additionally, construction staging would occur on the paved parking lot located immediately adjacent to the north.

The Integrated Cultural Resources Management Plan (ICRMP) for the Los Angeles AFB describes the history of the base (U.S. Air Force [USAF] 2018). Los Angeles AFB was originally developed in the 1940s and 1950s. This 54-acre property is developed building footprints, asphalt surface parking lots, concrete hardscapes, and landscaping. A California Historical Resources Information System (CHRIS) record search conducted with the South Central Coastal Information Center (SCCIC) identified no prehistoric archaeological sites on or within a 0.5-mile radius of the base (USAF 2018). Additionally, no archaeological sites have been identified at Los Angeles AFB, and the potential for the area to contain subsurface archaeological deposits is low (USAF 2018). There is one historic-age building is located on the base; however, an evaluation of the structure has determined it does not meet the criteria necessary for eligibility to the National Register of Historic Places (NRHP) (USAF 2001, 2018).

The proposed undertaking would not involve the demolition of any buildings or structures at Los Angeles AFB. Further, all ground-disturbing activities associated with the proposed undertaking would occur on a previously disturbed area of the base. Therefore, there is low possibility of inadvertent discoveries, and the USAF has determined that an archaeological monitoring program would not be required. Any inadvertent discoveries would be processed under the ICRMP, Section 7.4, *Cultural Discoveries*, and the provisions of applicable law(s) such as Section 106 of the NHPA (36 CFR §800.13).

Based on the evidence and data provided herein, the USAF has determined that the undertakings would have no effect on any historic resources that are eligible or potentially eligible for listing on the NRHP. We respectfully seek your concurrence with our determination of *no historic properties affected.* In accordance with 36 CFR §800.4(d)(1)(i), we are open to receiving your comments or questions within 30 days of your office's receipt of this consultation package. If your office chooses to send written comments, please address them to Mr. Joshua Jones, 61 CELS Environmental, 483 N. Aviation Blvd. El Segundo, CA 90245. You may also e-mail your comments to joshua.jones.81.ctr@us.af.mil. If you choose to e-mail comments, please include "Space and Missile Park at Los Angeles Air Force Base" in the subject line. Thank you for your assistance in reviewing this undertaking.

ARELLANO.NICHOLAS.ALLAN.NELSON.1395817953 Digitally signed by ARELLANO.NICHOLAS.ALLAN.NELSON.1395817953 Date: 2020.02.05 09:02:22 -08'00'

NICHOLAS ARELLANO, Capt, USAF
Installation Management Flight Chief

2 Tabs:

1. Figure 1. Project Site and Dismissed Locations
2. Integrated Cultural Resources Management Plan for Los Angeles Air Force Base (USAF 2018)

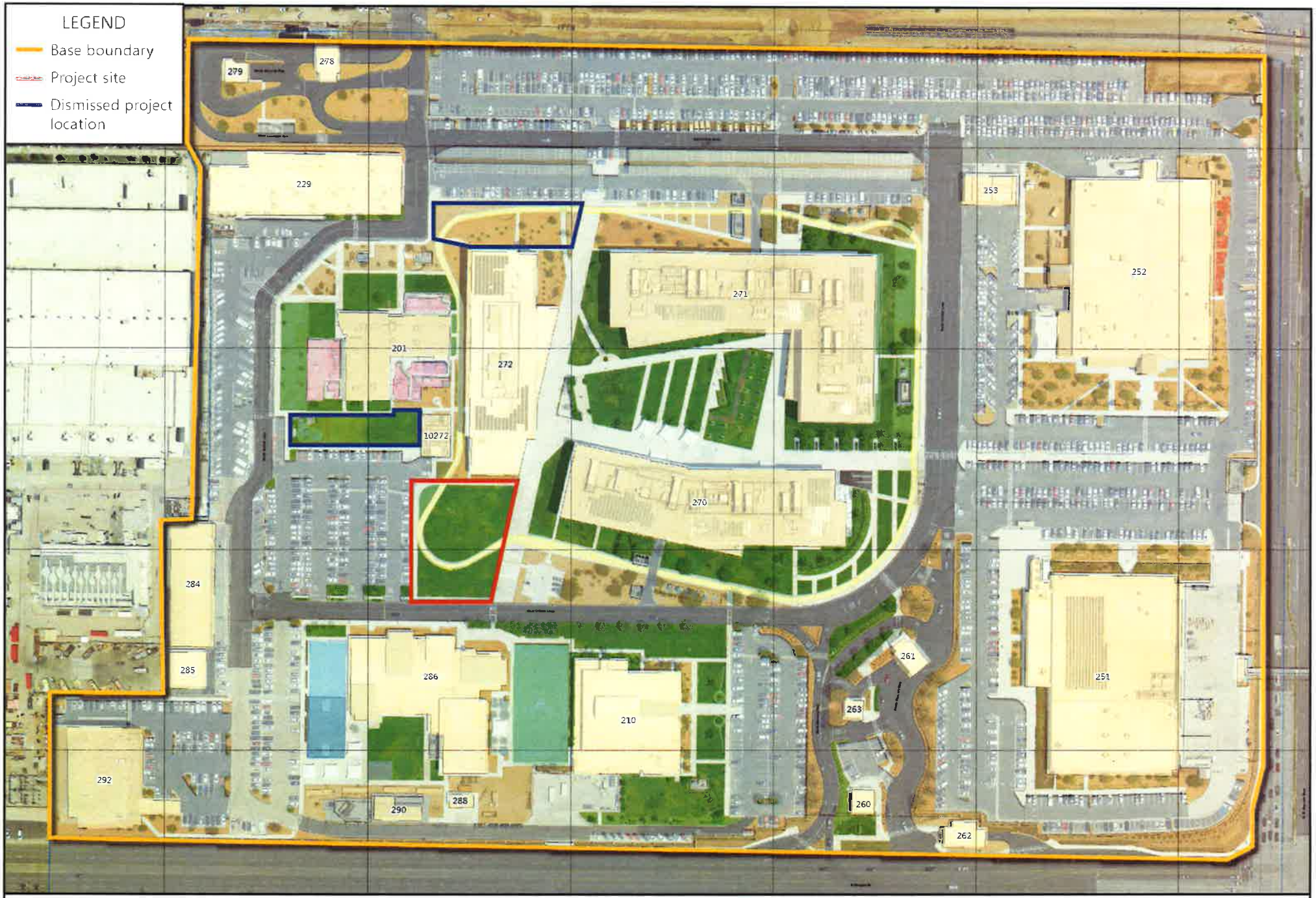

Figure 1. Project Site and Dismissed Locations

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 61st AIR BASE GROUP (USSF)
LOS ANGELES AIR FORCE BASE, CALIFORNIA

MEMORANDUM FOR DISTRIBUTION

FROM : 61st Air Base Group
Los Angeles Air Force Base
482 North Aviation Boulevard
El Segundo, CA 90245

SUBJECT: Request for Comment on the Draft Environmental Assessment for Proposed Space and Missile Park at Los Angeles Air Force Base (AFB), Los Angeles, California

1. The 61st Air Base Group has prepared a Draft Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S. Code [USC] §§4331 et seq.) to evaluate the potential environmental impacts of the proposed Space and Missile Park (Park) at Los Angeles Air Force Base.

2. The purpose of the Park – as proposed by Space and Missile Systems Center (SMC) leadership – is to provide a tangible reminder of both the SMC's past heritage and their work on current and future systems, functioning as an educational development and ensuring the preservation of important representative artifacts documenting the SMC's history. The proposed Park would also serve as a gathering place for SMC personnel and visitors to enjoy the outdoors, improving morale and welfare at the base.

3. While several details (e.g., complete inventory and orientation of static displays) are still under development, the conceptual designs for the proposed Park call for up to six artifacts displayed in either vertical or horizontal alignment. Each static display – including required concrete foundations – would be engineered individually based on the specific artifact to be installed. Each of the static displays would feature informational plaques and educational signage. There would be two formal entrances to the Park – one of which would be compliant with the Americans with Disabilities Act of 1990 (ADA) – and there would be several seating areas, with shade trees intended to provide inviting areas for congregation.

4. In accordance with Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, we request your review of the attached Draft EA and solicit your comments concerning the proposal and any potential environmental consequences. Also enclosed is the distribution list, which includes those Federal, State, and local agencies that have been contacted as part of the intergovernmental review process. If there are any additional agencies that you feel should review and comment on the proposal, please include them in your distribution of this letter and the attached materials.

5. Please provide any comments at your earliest convenience, but no later than 30 days from the receipt of this letter to Mr. Joshua Jones, 61 CELS Environmental, 482 N Aviation Blvd, El Segundo, CA 90245, or by email to joshua.jones.81.ctr@us.af.mil. If you choose to e-mail comments, please include "Space and Missile Park at Los Angeles Air Force Base" in the subject line. Thank you for your assistance.

A. DAVE ESPILI, NH-04, USAF
Deputy Base Civil Engineer

Attachments:
1. Draft EA (CD-ROM)

Distribution List

U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: (415) 947-8000

U.S. Army Corps of Engineers
Los Angeles District
Planning
Los Angeles District
915 Wilshire Blvd.
Los Angeles, CA 90017
(213) 452-3787

U.S. Fish and Wildlife Service
Carlsbad Field Office
2177 Salk Avenue – Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

California Department of Environmental Protection
1001 I St, Sacramento, CA 95814
(916) 324-1252

Los Angeles Regional Quality Control Board
320 W 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6600

California Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201

State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814
(916) 445-0613

County of Los Angeles
Department of Regional Planning
320 W Temple St, Los Angeles, CA 90012
(213) 974-6411

City of Hawthorne
Planning Department
Hawthorne City Hall
4455 W. 126th Street
Hawthorne, CA 90250
(310) 349-2901

City of El Segundo
Planning & Building Safety Department
El Segundo City Hall
350 Main Street
El Segundo, CA 90245
(310) 524-2300

City of Los Angeles
Los Angeles City Planning
201 N. Figueroa Street, 4th Floor
Los Angeles, CA 90012
(213) 482-7077

Councilwoman Linda Candelaria
Gabrielino-Tongva Tribe
80839 Camino Santa Juliana
Indio, CA 92203
(626) 676-1184

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APPENDIX B
TRIBAL CONSULTATION CORRESPONDENCE

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 61st AIR BASE GROUP (AFSPC)
LOS ANGELES AIR FORCE BASE, CALIFORNIA

06 Feb 2020

MEMORANDUM FOR DISTRIBUTION

FROM: 61 ABG/CC
Los Angeles Air Force Base
482 N. Aviation Blvd.
El Segundo, CA 90245

SUBJECT: Environmental Assessment for Proposed Space and Missile Park at Los Angeles Air Force Base (LAAFB), Los Angeles, California

1. The 61st Air Base Group is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S. Code [USC] §§4331 et seq.) to evaluate the potential environmental impacts of the proposed Space and Missile Park (Park) at Los Angeles Air Force Base.

2. The purpose of the Park – as proposed by Space and Missile Systems Center (SMC) leadership – is to provide a tangible reminder of both the SMC's past heritage and their work on current and future systems, functioning as an educational development and ensuring the preservation of important representative artifacts documenting the SMC's history. The proposed Park would also serve as a gathering place for SMC personnel and visitors to enjoy the outdoors, improving morale, and welfare at the base.

3. While several details (e.g., complete inventory and orientation of static displays) are still under development, the conceptual designs for the proposed Park call for up to six artifacts displayed in either vertical or horizontal alignment. Each static display – including required concrete foundations – would be engineered individually based on the specific artifact to be installed. Each of the static displays would feature informational plaques and educational signage. There would be two formal entrances to the Park – one of which would be compliant with the Americans with Disabilities Act (ADA) – and there would be several seating areas, with shade trees intended to provide inviting areas for congregation.

4. The 61st Air Base Group anticipates the Area of Potential Effect (APE) for this undertaking to be limited to project site identified in Figure 1. As a Native American tribe with potential interests in the APE, the 61st Air Base Group is reaching out to you to assist in our analysis of the undertaking's effect. In accordance with Section 106 of the National Historic Preservation Act (NHPA) and in reference to Executive Order (EO) 13175, *Consultation and Coordination with Indian Tribal Governments*, the 61st Air Base Group would like to offer government-to-government consultation with your tribe. The 61st Air Base Group is also consulting with the California State Historic Preservation Office (SHPO) under Section 106.

5. In particular, the 61st Air Base Group requests your input about 1) the existence of any traditional resources that may be located in or near the proposed APE, 2) whether you have

The Integrated Cultural Resources Management Plan (ICRMP) for the Los Angeles AFB describes the history of the base (U.S. Air Force [USAF] 2018). Los Angeles AFB was originally developed in the 1940s and 1950s. This 54-acre property is developed building footprints, asphalt surface parking lots, concrete hardscapes, and landscaping. A California Historical Resources Information System (CHRIS) record search conducted with the South Central Coastal Information Center (SCCIC) identified no prehistoric archaeological sites on or within a 0.5-mile radius of the base (USAF 2018). Additionally, no archaeological sites have been identified at Los Angeles AFB, and the potential for the area to contain subsurface archaeological deposits is low (USAF 2018). There is one historic-age building is located on the base; however, an evaluation of the structure has determined it does not meet the criteria necessary for eligibility to the National Register of Historic Places (NRHP) (USAF 2001, 2018).

The proposed undertaking would not involve the demolition of any buildings or structures at Los Angeles AFB. Further, all ground-disturbing activities associated with the proposed undertaking would occur on a previously disturbed area of the base. Therefore, there is low possibility of inadvertent discoveries, and the USAF has determined that an archaeological monitoring program would not be required. Any inadvertent discoveries would be processed under the ICRMP, Section 7.4, *Cultural Discoveries*, and the provisions of applicable law(s) such as Section 106 of the NHPA (36 CFR §800.13).

Based on the evidence and data provided herein, the USAF has determined that the undertakings would have no effect on any historic resources that are eligible or potentially eligible for listing on the NRHP. We respectfully seek your concurrence with our determination of *no historic properties affected.* In accordance with 36 CFR §800.4(d)(1)(i), we are open to receiving your comments or questions within 30 days of your office's receipt of this consultation package. If your office chooses to send written comments, please address them to Mr. Joshua Jones, 61 CELS Environmental, 483 N. Aviation Blvd. El Segundo, CA 90245. You may also e-mail your comments to joshua.jones.81.ctr@us.af.mil. If you choose to e-mail comments, please include "Space and Missile Park at Los Angeles Air Force Base" in the subject line. Thank you for your assistance in reviewing this undertaking.

ARELLANO.NICHOLAS.ALLAN.NELSON.1395817953 Digitally signed by ARELLANO.NICHOLAS.ALLAN.NELSON.1395817953 Date: 2020.02.05 09:02:22 -08'00'

NICHOLAS ARELLANO, Capt, USAF
Installation Management Flight Chief

2 Tabs:

1. Figure 1. Project Site and Dismissed Locations
2. Integrated Cultural Resources Management Plan for Los Angeles Air Force Base (USAF 2018)

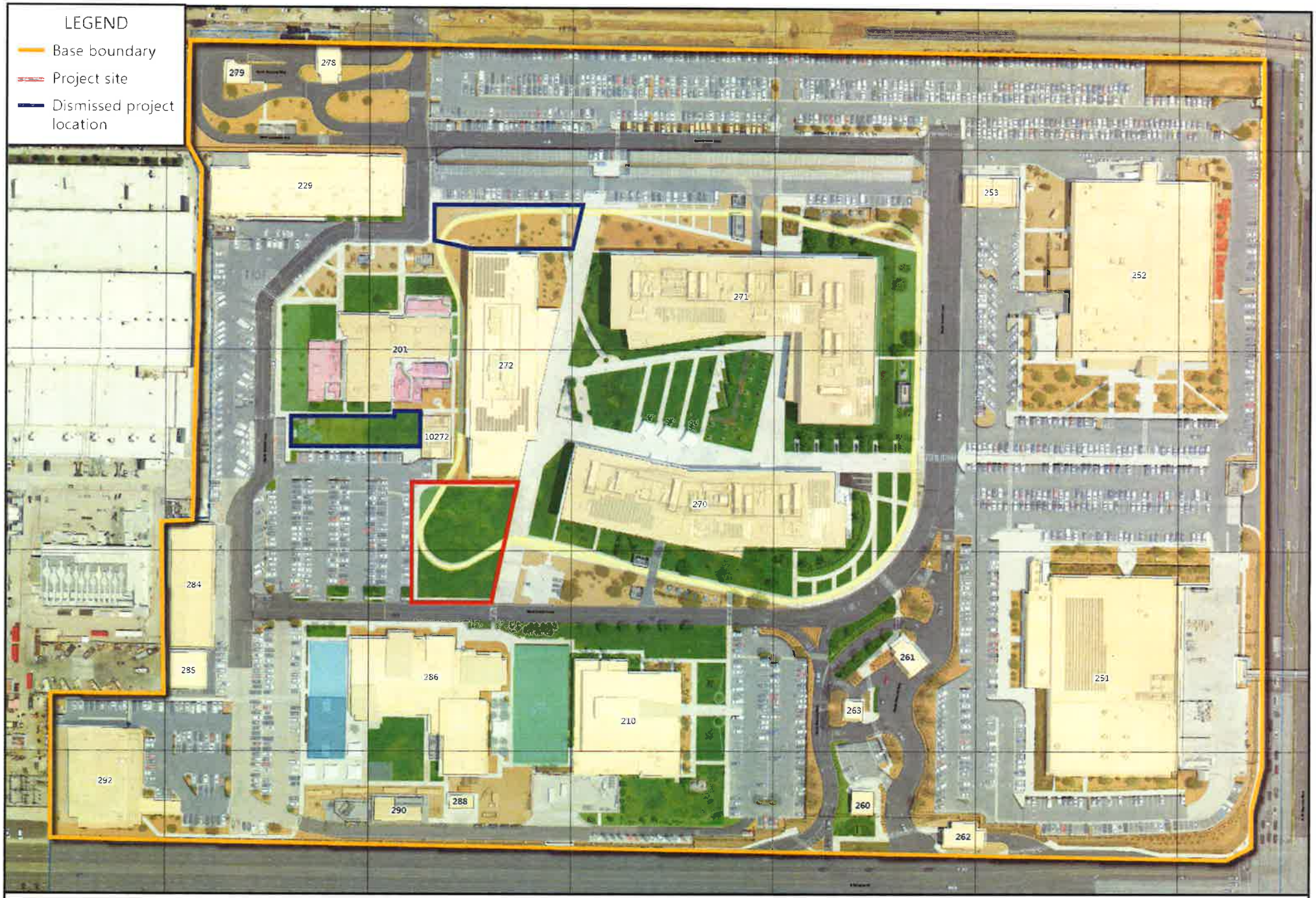

Figure 1. Project Site and Dismissed Locations

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 61st AIR BASE GROUP (USSF)
LOS ANGELES AIR FORCE BASE, CALIFORNIA

MEMORANDUM FOR Los Angeles Air Force Base (LAAFB) Space Park Environmental Assessment (EA)

FROM: 61 CELS

SUBJECT: Attempts to Contact Native American Tribe for Project Consultation

1. LAAFB is in the process of completing an EA for the development of a Space Park on the Base. It is Air Force policy contact Native Americans tribes that may have interest in the project. The Gabrielino-Tongva Tribe was identified as group with may have interest in the project. LAAFB has attempted to contact the Gabrielino-Tongva Tribe without success. The attempts are detailed below.

1.1. Letter sent from LAAFB to Gabrielino-Tongva Tribe signed by 61ABG Commander requesting input receipt confirmed 6 February 2020.

1.2. Email from LAAFB Environmental Section sent to tribe's representative on 01 April 2020 requesting response to letter. No response was received by LAAFB.

1.3. Email from LAAFB Environmental Section sent to tribe's representative on 13 April 2020 requesting response to letter. No response was received by LAAFB.

1.4. Phone call with accompanying voicemail placed by LAAFB Environmental Section on 14 April 2020. No response was received was received by LAAFB.

2. Due to the lack of response on the part of the Gabriel-Tongva Tribe, LAAFB will continue with the next phase of EA process. If you have any questions please contact Environmental Section Lead, Joshua Jones, at joshua.jones.81@us.af.mil or 310-653-5042.

ARELLANO.NICHOLAS.ALLAN NELSON.1395817953
Digitally signed by ARELLANO.NICHOLAS.ALLAN NELSON.1395817953
Date: 2020.04.22 08:16:53 -07'00'

Nicholas Arellano, Captain, USAF
Installation Management Flight Commander

APPENDIX C
RECORD OF CONFORMITY APPLICABILITY AND ACAM REPORT

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AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LOS ANGELES AFB
State: California
County(s): Los Angeles
Regulatory Area(s): Los Angeles South Coast Air Basin, CA

b. Action Title: Proposed Missile and Space Park at the Los Angeles Air Force Base

c. Project Number/s (if applicable):

d. Projected Action Start Date: 7 / 2020

e. Action Description:

The proposed Park would be established in the approximately 25,500 sf of manicured lawn immediately north of Building 270, which currently serves as a stormwater detention basin. The jogging loop that currently passes through the subject parcel would remain intact and would continue to be available for walking and running.

f. Point of Contact:

Name: Sydnie Margallo
Title: Environmental Analyst / Air Quality Specialist
Organization: Wood, Inc.
Email: sydnie.margallo@woodplc.com
Phone Number: (858) 300-4327

2. Analysis: Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

Based on the analysis, the requirements of this rule are: _____ applicable
__X__ not applicable

Conformity Analysis Summary:

2020

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Los Angeles South Coast Air Basin, CA			
VOC	0.080	10	No
NOx	0.495	10	No
CO	0.461	100	No
SOx	0.001	70	No
PM 10	0.361	100	No
PM 2.5	0.024	70	No
Pb	0.000		
NH3	0.000	70	No

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

CO2e	108.2		

2021 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Los Angeles South Coast Air Basin, CA			
VOC	0.000	10	No
NOx	0.000	10	No
CO	0.000	100	No
SOx	0.000	70	No
PM 10	0.000	100	No
PM 2.5	0.000	70	No
Pb	0.000		
NH3	0.000	70	No
CO2e	0.0		

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

_____ _____

Sydnie Margallo, Environmental Analyst / Air Quality Specialist DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LOS ANGELES AFB
State: California
County(s): Los Angeles
Regulatory Area(s): Los Angeles South Coast Air Basin, CA

- Action Title: Proposed Missile and Space Park at the Los Angeles Air Force Base

- Project Number/s (if applicable):

- Projected Action Start Date: 7 / 2020

- Action Purpose and Need:
The purpose of the proposed Park is to provide a tangible reminder of both the Space and Missile Systems Center's (SMC's) past heritage and their work on current and future systems. The proposed Park would function as an educational development display and would ensure the preservation of important representative artifacts documenting the SMC's history. The proposed Park would also serve as a gathering place for SMC personnel and visitors to enjoy the outdoors, improving morale and welfare at the base.

The need for the proposed Park stems from a relative lack of on-base services and amenities available to SMC personnel, retirees, and visitors. Establishment of the proposed Park would fulfill a need by providing enhanced opportunities for these individuals to enjoy and engage in activities at the base.

- Action Description:
The proposed Park would be established in the approximately 25,500 sf of manicured lawn immediately north of Building 270, which currently serves as a stormwater detention basin. The jogging loop that currently passes through the subject parcel would remain intact and would continue to be available for walking and running.

- Point of Contact
Name: Sydnie Margallo
Title: Environmental Analyst / Air Quality Specialist
Organization: Wood, Inc.
Email: sydnie.margallo@woodplc.com
Phone Number: (858) 300-4327

- Activity List:

	Activity Type	Activity Title
2.	Construction / Demolition	Space and Missile Park

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Los Angeles
Regulatory Area(s): Los Angeles South Coast Air Basin, CA

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Title: Space and Missile Park

- Activity Description:
-Grade the existing manicured lawn (30,492 sf)
-Excavate an underground stormwater vault (75' x 45' x 4')
-Install hardscape (i.e., cast-in-place concrete paving, decomposed granite, decorative rock cobble, etc.) along with irrigation, drainage systems, and landscaped planters
-Install six artifact displays

- Activity Start Date
Start Month: 7
Start Month: 2020

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2020

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.079891
SO_x	0.001128
NO_x	0.495107
CO	0.461284
PM 10	0.361011

Pollutant	Total Emissions (TONs)
PM 2.5	0.023764
Pb	0.000000
NH_3	0.000249
CO_2e	108.2

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 8
Start Quarter: 1
Start Year: 2020

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 30492
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8

Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.114	000.003	000.084	000.992	000.047	000.020		000.023	00298.845
LDGT	000.288	000.004	000.178	001.871	000.048	000.021		000.024	00379.038
HDGV	000.600	000.011	001.339	008.875	000.183	000.078		000.045	01128.468
LDDV	000.026	000.003	000.125	000.281	000.060	000.032		000.008	00271.718
LDDT	000.094	000.003	000.533	000.594	000.112	000.082		000.008	00364.857
HDDV	000.194	000.014	004.796	001.133	000.211	000.117		000.028	01514.699
MC	004.452	000.002	001.252	023.791	000.019	000.009		000.054	00187.891

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Start Year: 2020

- Phase Duration
Number of Month: 1
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 3375
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 500

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.114	000.003	000.084	000.992	000.047	000.020		000.023	00298.845
LDGT	000.288	000.004	000.178	001.871	000.048	000.021		000.024	00379.038
HDGV	000.600	000.011	001.339	008.875	000.183	000.078		000.045	01128.468
LDDV	000.026	000.003	000.125	000.281	000.060	000.032		000.008	00271.718
LDDT	000.094	000.003	000.533	000.594	000.112	000.082		000.008	00364.857
HDDV	000.194	000.014	004.796	001.133	000.211	000.117		000.028	01514.699
MC	004.452	000.002	001.252	023.791	000.019	000.009		000.054	00187.891

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Paving Phase

2.3.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2020

- Phase Duration
Number of Month: 1
Number of Days: 0

2.3.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 30492

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Paving Equipment Composite	1	8
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0919	0.0014	0.5823	0.5765	0.0280	0.0280	0.0082	132.95
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0562	0.0012	0.3519	0.3508	0.0138	0.0138	0.0050	122.62
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.2117	0.0024	1.5772	0.8005	0.0630	0.0630	0.0191	239.56
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0436	0.0007	0.2744	0.3616	0.0134	0.0134	0.0039	66.897

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.114	000.003	000.084	000.992	000.047	000.020		000.023	00298.845
LDGT	000.288	000.004	000.178	001.871	000.048	000.021		000.024	00379.038
HDGV	000.600	000.011	001.339	008.875	000.183	000.078		000.045	01128.468
LDDV	000.026	000.003	000.125	000.281	000.060	000.032		000.008	00271.718
LDDT	000.094	000.003	000.533	000.594	000.112	000.082		000.008	00364.857
HDDV	000.194	000.014	004.796	001.133	000.211	000.117		000.028	01514.699
MC	004.452	000.002	001.252	023.791	000.019	000.009		000.054	00187.891

2.3.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)

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