ENVIRONMENTAL ASSESSMENT
LOS ANGELES AFB PARKING STRUCTURE

LOS ANGELES AIR FORCE BASE

August 2007

Prepared for
Los Angeles Air Force Base

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Report Documentation Page

Form Approved
OMB No. 0704-0188

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1. REPORT DATE **18 JAN 2008**	2. REPORT TYPE	3. DATES COVERED **00-00-2008 to 00-00-2008**
4. TITLE AND SUBTITLE **Environmental Assessment Los Angeles AFB Parking Structure**		5a. CONTRACT NUMBER
		5b. GRANT NUMBER
		5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)		5d. PROJECT NUMBER
		5e. TASK NUMBER
		5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Innovative Technical Solutions, Inc.,1881 North Gaffey Street, Suite A,San Pedro,CA,90731**		8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)
12. DISTRIBUTION/AVAILABILITY STATEMENT **Approved for public release; distribution unlimited**		
13. SUPPLEMENTARY NOTES		
14. ABSTRACT		
15. SUBJECT TERMS		

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**80**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

FINDING OF NO SIGNIFICANT IMPACT
FOR PROPOSED PARKING STRUCTURE
LOS ANGELES AIR FORCE BASE

INTRODUCTION

In a modernization project, Los Angeles Air Force Base (LAAFB) consolidated facilities and operations from non-contiguous parcels into a single location in El Segundo, California. Approximately 543,000 square feet of new office buildings were built at the installation to accommodate the base consolidation. As a result of this consolidation process and construction of new facilities, additional vehicle parking is required. The Air Force is considering several sites for the construction and operation of a multi-level parking garage on or in the vicinity of the installation.

The original parking plan for the LAAFB consolidation project called for parking adjacent to each building. Under this plan, sufficient surface area existed to accommodate the expected parking needs. While the original plan was being implemented and property development was going forward, the September 11, 2001 terrorist attacks occurred. Following these attacks, Congress passed and the President signed legislation that defined the Anti-Terrorism and Force Protection requirements for military installations. Based on these requirements, surface parking could not be located immediately adjacent to the new buildings located at LAAFB. The consolidated LAAFB does not have space to accommodate surface parking at other locations. This loss of surface parking resulted in approximately 1,000 vehicles per day being parked remotely at a Raytheon parking lot, located approximately 0.8 miles west of the installation. Employees are shuttled from the Raytheon parking lot to LAAFB.

PROPOSED ACTION

The proposed parking structure would be built within or immediately adjacent to LAAFB. LAAFB is an approximately 54-acre property located at the northwest corner of the intersection of El Segundo Boulevard and Aviation Boulevard, in the City of El Segundo, California.

The preferred project location for the parking structure is in the northwest corner of LAAFB. The site is currently used for surface parking. The parking structure would be

seven stories and contain 1,361 parking stalls, a net increase of 1,044. Primary access to the parking structure would be from the main gate located on Douglas Street. Other proposed sites are all on or immediately adjacent to LAAFB.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The Environmental Assessment (EA) for the parking structure reviewed thirteen environmental disciplines. The environmental disciplines of air quality, water resources, geological resources, biological resources, visual resources, population and socioeconomics, land use, transportation and utilities, health and safety, noise and cultural resources. The environmental disciplines were analyzed in-depth for potential environmental impacts.

Based on activities associated with the proposed parking structure, no impacts to air quality are anticipated. A short term increase in air emissions would occur during construction activities, but these emissions would not impact regional or local air quality. Noise levels would also be temporarily increased during construction. However, the proposed action would not raise noise levels, except for short spikes in the 90-decibel range. Visual resources would not be impacted. The proposed parking visual effects of the proposed parking structure would be consistent with the structures in the immediate area. Long-term, the proposed project would not change regional traffic levels but would generate an increase in daily vehicle trips to LAAFB. Minor congestion at major intersections may occur, but would not significantly disrupt traffic flows. The EA concludes no significant environmental impacts would result from the proposed parking structure if appropriate construction practices are implemented.

DECISION

As a result of the analysis and impacts in the EA, it was concluded the proposed action and alternatives would not have a significant impact on human health or the natural environment and therefore, an Environmental Impact Statement is not warranted.

Joseph H. Schwarz

JOSEPH H. SCHWARZ, Colonel, USAF
Commander, 61st Air Base Wing

18 Jan 08
Date

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1.0 INTRODUCTION

1.1 BACKGROUND

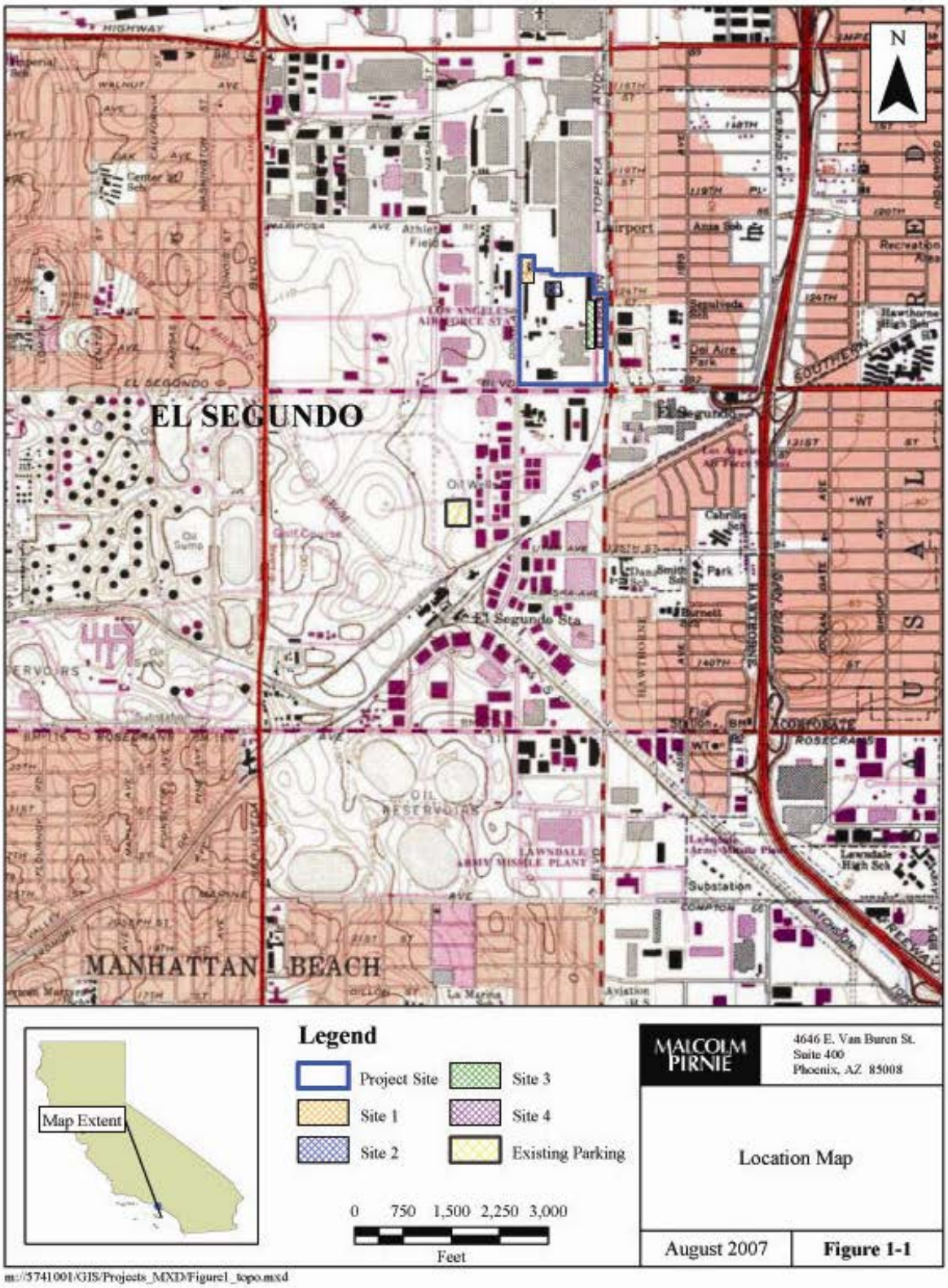
In a recent base reorganization and modernization project, the Los Angeles Air Force Base (LAAFB) consolidated facilities and operations from non-contiguous parcels into a single location in El Segundo, California. In all, approximately 543,000 square feet of new office buildings were built at the installation to accommodate the base consolidation. Older office buildings and structures that did not meet current force protection and seismic regulations were demolished as part of the base consolidation. As a result of this consolidation, over 3,000 civilian and military personnel now work at the facility.

The mission of LAAFB is to provide integrated affordable systems for the control and exploitation of air and space. The installation is home to the Space and Missile Systems Center (SMC), 61st Air Base Group Wing, and numerous Operating Locations and Detachments. SMC is the center for researching, developing and purchasing military space systems, including on-orbit checkout, testing, support and maintenance of military satellite constellations, and other Department of Defense (DOD) space systems.

As a result of this consolidation process and construction of new facilities, additional vehicle parking is required. The Air Force is considering several sites for the construction and operation of a multi-level parking garage on, or in the vicinity of, the installation. The construction and operation of a parking structure is the Proposed Action. Because the parking structure would be on existing Federal land or land to be acquired by the Federal government, and would utilize Federal funding, National Environmental Policy Act (NEPA) compliance is required.

1.2 LOCATION OF THE PROPOSED ACTION

The Proposed Action encompasses four separate sites, all within or immediately adjacent to the consolidated LAAFB. LAAFB is an approximately 54-acre property located at the northwest corner of the intersection of El Segundo Boulevard and Aviation Boulevard, in the City of El Segundo (200 N. Douglas Street) (Figure 1-1). Regional access to these sites and surrounding areas is provided from the San Diego Freeway (I-405) and the Century Freeway (I-105). Major streets that provide access to these sites include Aviation Boulevard, Douglas Street and El Segundo Boulevard.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EL SEGUNDO
MANHATTAN BEACH
Legend
Project Site
Site 1
Site 2
Site 3
Site 4
Existing Parking
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Feet
Map Extent
MALCOLM PIRNIE
4646 E. Van Buren St.
Suite 400
Phoenix, AZ 85008
Location Map
August 2007
Figure 1-1
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1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

As described, the Proposed Action is the construction and operation of a single, multi-level parking structure. The proposed project was made necessary by the recent reorganization and consolidation of LAAFB facilities and operations, which resulted in newly constructed office buildings and associated facilities.

The original parking plan for the LAAFB consolidation project called for parking adjacent to each building. Under this plan, sufficient surface area existed to accommodate the expected parking needs. While the original plan was being implemented and property development was going forward, the September 11, 2001 terrorist attacks occurred. Following these attacks, Congress passed, and the President signed, legislation that defined the Anti Terrorism and Force Protection requirements for military installations. Based on these requirements, surface parking could not be located immediately adjacent to the new buildings located at LAAFB. The consolidated LAAFB does not have space to accommodate surface parking at other locations. This loss of surface parking has resulted in approximately 1,000 vehicles per day being parked remotely at a Raytheon parking lot, located approximately 0.8 miles west of the installation. Employees are shuttled from the Raytheon parking lot to LAAFB.

In order to provide adequate parking to LAAFB employees and to provide the necessary anti-terrorism security, LAAFB has initiated a project to consolidate the surface parking at the Raytheon site into a single, multi-story parking structure within or immediately adjacent to LAAFB. Once completed, this parking structure will accommodate the employees currently parking at the Raytheon site.

1.4 DECISION TO BE MADE

The Air Force Deciding Officer is responsible for decisions regarding this project under NEPA. Elements of the decision to be made include: (1) whether or not the proposed action has a significant impact on existing environmental conditions; and (2) what, if any, mitigation can be applied to reduce impacts to acceptable levels. As required by the NEPA, the Air Force is also required to evaluate a No Action Alternative, which will be used as a baseline of comparison from which action alternatives can be measured.

Based on the analysis disclosed in the Environmental Assessment (EA), the Air Force Deciding Officer can:

- Select an Action or No-action Alternative that has been considered in detail;
- Select a modified Action Alternative; or
- Require that an Environmental Impact Statement be prepared for the project.

1.5 APPLICABLE LAWS AND EXECUTIVE ORDERS

The Air Force is the Lead Agency for purposes of NEPA compliance. Air Force instructions for implementing NEPA are contained in AFI 32-7061, Environmental Impact Analysis Process (EIAP), as promulgated in Title 32, Code of Federal Regulations, Part 989 (32 CFR Part 989). Under 32 CFR Part 989.4, Air Force personnel are required to consider and document environmental effects of proposed Air Force actions through a variety of environmental documents. Under 32 CFR Section 989.14, an Environmental Assessment is used to definitively determine if an Environmental Impact Statement (EIS) is required based on the analysis of environmental impacts.

Other State and Federal Laws and Executive Orders

For other specific regulatory programs, the Air Force operates in compliance with state and other federal regulatory agencies. Shown below is a partial list of other federal laws and executive orders pertaining to project-specific planning and environmental analysis on federal lands.

- National Environmental Policy Act (NEPA) of 1969 (as amended)
- Endangered Species Act (ESA) of 1973 (as amended)
- Wild and Scenic Rivers Act of 1968, (as amended)
- Clean Water Act of 1977 (as amended)
- Clean Air Act of 1970 (as amended)
- National Historic Preservation Act of 1966 (as amended)
- American Indian Religious Freedom Act of 1978
- Archeological Resource Protection Act of 1980
- Executive Order 11593 (cultural resources)
- Executive Order 11988 (floodplains)
- Executive Order 11990 (wetlands)
- Executive Order 12898 (environmental justice)
- Executive Order 12962 (aquatic systems and recreational fisheries)
- Executive Order 13186 (Migratory Bird Treaty Act)

This chapter presents an overview of the environmental process, the purpose and need for the project, and the site location.

1.6 COORDINATION AND CONSULTATION

Implementing the proposed action would involve coordinating with the following agencies:

- South Coast Air Quality Management District (SCAQMD) for (1) air quality permitting for construction activities, and (2) Asbestos Abatement (related to possible transite pipe) procedures under Rule 1403.
- Los Angeles Regional Water Quality Control Board (LARWQCB) for a National Pollutant Discharge Elimination System (NPDES) General Construction Activity Permit (and associated storm water pollution prevention plan).

The following agencies were contacted as part of the Air Force reorganization and consolidation process:

- US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act
- The California State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act (NHPA).

1.7 ORGANIZATION OF THIS ENVIRONMENTAL ASSESSMENT

This EA analyzes the environmental conditions and potential impact of construction of a parking structure on or adjacent to LAAFB. The environmental resources included in the analysis are air quality, water resources, geology and soils, biological resources, visual resources, population and socioeconomics, transportation and utilities, health and safety, noise, and cultural resources. Existing environmental conditions and environmental consequences of implementing the proposed action are described to the level necessary to determine whether the effects of the proposed action may be significant. This EA was prepared using a record of existing, readily available, information; no public or agency scoping or primary data gathering was conducted for this study.

Chapter 1 of this document is an introduction to the EA and includes background information about LAAFB, the decision to be made, the purpose and need for the action, and the project location. Chapter 2 presents a discussion of the proposed action and alternatives. Chapter 3 describes the existing environmental conditions of the project alternative sites and the surrounding area. Chapter 4 describes the changes or impacts to natural and human environmental resources that can be expected from implementing the Proposed Action at the alternative sites and the No-action Alternative. Chapter 5 includes a list of preparers and contributors, and a list of agencies and organizations consulted. Chapter 6 provides reference information used in the preparation of the document.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter describes in detail the action being proposed by LAAFB, and alternatives. The chapter also describes the environmental protection measures which will be undertaken by LAAFB and construction contractors to avoid or minimize potential environmental impacts.

2.1 PROPOSED ACTION

As described in Section 1.0, many of the employees at the LAAFB are required to park in a remote location and are shuttled by bus to the facility. The proposed action would remedy the Anti Terrorism/Force Protection problem of having remote parking for these LAAFB employees. To solve this problem, LAAFB proposes to construct and maintain a single multi-story parking structure on the Base. The Anti Terrorism/Force Protection Consolidated Parking Area would provide better security and compliance with the Anti Terrorism/Force Protection guidelines.

The proposed project involves removal of any existing structures, clearing the site, and construction of a cast-in-place concrete parking structure. The proposed parking structure would provide for a net increase of over 900 parking spaces. The proposed action would employ up to 200 temporary workers and be constructed over an 18 month time period. Assuming that funding becomes available, the project would start in 2010 with project completion in 2012.

2.1.1 Project Phasing

Site Clearing and Grading

Depending on the alternative site, a maximum of 3.5 acres of surface preparation would be undertaken to facilitate construction of the parking structure. The alternative sites are currently paved parking lots or vacant property. No structures would need to be demolished to implement this project. Up to 85 truck trips would be required each day during the site clearing phases. The daily number of trucks may vary based on field activities and the availability of hauling vehicles.

Transportation and Access

A temporary construction gate will be constructed adjacent to the preferred alternative for ingress and egress during construction and to provide routes for the off-site transportation and disposal. All drivers would be required to attend safety meetings prior to and during transport and disposal activities. Drivers would be briefed on specific routes, traffic control, and site layout. Signs would be placed outside the ingress and egress areas to

warn of the construction activity. Security would be provided by the LAAFB at the accepted ingress and egress locations.

Disposal of Demolition Debris

Recyclable materials such as concrete, asphalt, and metal products will be generated as a result of the proposed action. Depending on the Alternative Site, up to 2,500 tons of asphalt/concrete could be transported off-site for recycling, or for disposal if it is determined that quantities are insufficient to warrant on-site segregation for recycling.

Utility Impacts/Relocation

A utility survey would be conducted to identify all underground utilities in the project area. Electrical poles and transformers, water lines, sewer line mains and collectors, and storm drains would be relocated, as necessary.

Storm Water Management

The project site would be managed to prevent contamination of storm water from construction activities in accordance with requirements of the LARWQCB, including the development of a Construction Activity Storm Water Pollution Prevention Plan (SWPPP). Storm water on site would be managed to Tier II storm water standards, in which the watershed potentially adversely impacted by storm water discharges associated with the proposed action will be targeted for individual or watershed-specific general permits.

Construction

The proposed design is cast-in-place concrete. During construction, concrete trucks will be used to pour footings and each floor of the parking structure. These trucks will be staged on Douglas Street or Aviation Boulevard adjacent to the parking structure location.

During construction up to 200 temporary workers will be onsite. These workers will park within the staging area and at Raytheon and be transported to the construction site by shuttle bus or van.

2.2 ALTERNATIVES DEVELOPMENT

To be considered for evaluation, alternatives to the proposed action had to meet the purpose and need for the proposed action and had to satisfy the following criteria:

- Be consistent with DOD Anti Terrorism and Force Protection requirements
- Meet applicable regulatory requirements

- Be technically feasible within budgetary guidelines established by LAAFB/Department of the Air Force/Department of Defense

As a result, four Action Alternatives and a No-action Alternative were identified, and are detailed below:

- Alternative Site 1 - Adjacent to Douglas Street (preferred)
- Alternative Site 2 - West of the Child Development Center
- Alternative Site 3 – East of Building 271 within LAAFB
- Alternative Site 4 – East of Building 271 on Aerospace Corporation property
- No-action Alternative – No parking lot construction at LAAFB, continue to lease off-site parking.

The location of each of the proposed action alternative sites is depicted on Figure 2-1.

As depicted, the preferred location, Site 1, and alternative Sites 2 and 3 are within the current LAAFB boundaries. Site 4 is directly adjacent to eastern boundary of LAAFB. To implement the proposed action at Site 4, the Air Force would need to purchase land from the Aerospace Corporation.

Total square footage and height for each parking structure alternative is provided below:

Table 2-1
Los Angeles Air Force Base AT/FP Consolidated Parking Structure
Summary Table of Parking Structure Alternatives

Site	Surface Area (square feet)	Estimated Height	Through-going Traffic	Total Number of Parking Stalls	Net Increase in Parking Stalls
Alternative Site 1 (Preferred)	79,386	7 stories	Yes	1,361	1,044
Alternative Site 2	51,120	8 stories	No	1,168	964
Alternative Site 3	91,866	6 stories	Yes	1,312	945
Alternative Site 4	82,077	6 stories	No	1,408	1,080

N
Legend
Project Site
Site 1
Site 2
Site 3
Site 4
Aerial Photo Copyright
Landiscor Inc., 2002,
All Rights Reserved
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Feet
MALCOLM PIRNIE
4646 E. Van Buren St.
Suite 400
Phoenix, AZ 85008
Project Alternatives
August 2007
Figure 2-1
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Preferred Site 1
The preferred project location, Site 1, is currently used for parking. Construction access to the site would be from Douglas Street. Primary access to the parking structure would be from the main gate located on Douglas Street.

No existing utilities would need to be removed or relocated as a result of implementing Alternative Site 1. The parking structure would need to be set back from the Southern California Edison (SCE) substation north of Site 1. The first floor of Site 1 would need to accommodate through going traffic within the base and access to an emergency exit gate.

Alternative Site 2
Alternative Site 2 is currently used for surface parking. This area is where the future Logistics Operations Resource Complex (LORC) would be located. If Alternative Site 2 is selected, the LORC will need to be located elsewhere within LAAFB. Construction access to the site would be from Aviation Boulevard. Users of the parking structure would likely access the structure from both the Aviation Boulevard and Douglas Street gates.

No existing utilities would need to be removed or relocated as a result of implementing Alternative Site 2. The first floor of Alternative Site 2 does not need to accommodate through going traffic within the base.

Alternative Site 3
Alternative Site 3 is currently used for surface parking. Construction access to the site would be from Aviation Boulevard. The majority of the users of the parking structure would likely access the structure from Aviation Boulevard and the Douglas Street main gate.

The first floor of Site 3 would accommodate through going traffic within the base. No utilities would need to be relocated to construct Alternative Site 3. Directly adjacent to the east of the Alternative Site 3 is an ExxonMobil pipeline and SCE above-ground power lines. The eastern edge of the parking structure would need to be set back from the ExxonMobil pipeline and utility poles.

Alternative Site 4
Alternative Site 4 is on land immediately adjacent to the LAAFB, owned by the Aerospace Corporation. The parcel being proposed for the parking structure is currently used for surface parking. For this alternative to be implemented, LAAFB would need to purchase the land from the Aerospace Corporation. Construction access to the site would be from Aviation Boulevard. The majority of the users of the parking structure would

likely access the structure from Aviation Boulevard and the main gate entrance on Douglas Street.

Approximately eight electrical utility poles currently traverse the site and would need to be relocated as a result of implementing the proposed action at Alternative Site 4. No other utilities would need to be removed or relocated at this site. The parking structure would need to be set back from the ExxonMobil pipeline running the north south along the western edge of the Aerospace Corporation property.

No-action Alternative

The No-action Alternative to the proposed action is for the Air Force to continue long-term leasing of off-site parking and contracting shuttle buses to transport employees to and from LAAFB. LAAFB currently utilizes off-site parking at the Raytheon facility at 2000 East El Segundo Boulevard. The No-action Alternative assumes that this parking area would continue to be available for use by LAAFB employees. However, not constructing a parking structure at one of the four alternative sites on or adjacent to LAAFB may require the identification, negotiation, and procurement of off-site parking at another location. Employees would continue to be shuttled to LAAFB by buses or vans running at regularly scheduled intervals.

The No-action Alternative is not considered acceptable since it does not meet the Anti-Terrorism Force Protection requirements and results in a loss of man-hours, inconvenience, and safety during military support missions conducted at LAAFB.

2.3 ENVIRONMENTAL PROTECTION MEASURES

The Air Force places a strong emphasis on avoidance, minimization, and mitigation of potential impacts. This section summarizes environmental protection measures to be incorporated into project construction for specific resource areas that would avoid or largely offset potential impacts to the environment in the proposed project location and surrounding areas.

Air Quality

- All requirements of those entities having jurisdiction over air quality matters would be adhered to, and any permits needed for construction activities would be obtained.
- Dust and emission suppression via alternative wetting techniques would be used at locations of ground disturbance or other construction activities producing high levels of dust.

- Equipment and vehicles producing excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, would not be operated until corrective repairs or adjustments were made.
- Clearing and grading activities would cease during periods of high winds (greater than 25 mph averaged over one hour).

Water Resources

- A drainage plan for the proposed project will be prepared for the selected alternative. This plan shall include detailed hydrology/hydraulic calculations and drainage improvements. The plan will also identify the proposed Best Management Practices to be implemented in compliance with the requirements of the Standard Urban Storm Water Mitigation Plan and applicable City of El Segundo codes.
- The project applicant/developer shall file a Notice of Intent (NOI) for the National Pollutant Discharge Elimination System General Permit for Construction Activities with the California State Water Resources Board. Compliance with the NPDES general permit shall be certified by the Regional Water Quality Control Board prior to the issuance of grading and building permits.
- During construction and operations, 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 must be taken to an appropriate landfill. Toxic wastes must be discarded at a licensed, regulated disposal site by a licensed waste hauler.

Geology and Soils

- A comprehensive geotechnical report shall be prepared for the selected alternative. Specific design recommendations presented in the comprehensive geotechnical report for the selected site shall be incorporated into the final design and construction of the selected alternative. The comprehensive geotechnical report shall include, but not necessarily be limited to the following geotechnical hazards: ground shaking, slope stability, and expansive/corrosive soils.
- A site specific methane gas study shall be performed prior to ground disturbing activities to characterize the levels of methane and other volatile gases that may be present at these locations and to evaluate the level of impact that hazardous gases may have on the project.
- All soil excavated for structure foundations would be backfilled and tamped around the foundations, and used to provide positive drainage around the structure foundations. Excavated soil excess to these needs would be removed from the site and appropriately disposed.

Biological Resources

- Prior to preconstruction activities on the subject parcel, invasive non-native species present will be identified and efforts will be made to comply with land management agency treatment guidelines.
- Hay bales will not be used for erosion control.

Visual Resources

Environmental protection measures for scenic resources are designed to minimize visual intrusions. The measures include attempts to:

- Minimize development footprints, including construction staging and laydown areas.
- Choose building materials that are visually compatible or do not compete with adjacent structures or the landscape.

Transportation

- Contractors would implement a traffic control plan, as warranted. Standard measures could include strategies to maintain safe and efficient traffic flow within and outside of LAAFB during the construction period.

Health and Safety

- During construction, standard health and safety practices would be conducted in accordance with the Occupational Health and Safety Administration's policies and procedures.
- Workers would conform with safety requirements for maintaining the flow of public traffic and would conduct construction operations to offer the least possible obstruction and inconvenience to public transportation.
- A Spill Prevention Notification and Cleanup Plan will be prepared prior to initiation of construction activities.
- Hazardous materials, fuels, and lubricants would not be drained onto the ground or into washes or drainage areas. Totally enclosed containment would be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, would be removed to a disposal facility authorized to accept such materials.
- All fuel or hazardous waste leaks, spills, or releases would be immediately reported to LAAFB and appropriate local government agencies.
- Should previously undetected hazardous materials or wastes be encountered during construction, the LAAFB Fire Department will assess the situation and, if necessary, notify emergency response with local fire departments, including the El Segundo Fire Department. The area and debris where any hazardous materials or waste is suspected will be covered with visqueen pending direction from the LAAFB. The LAAFB Environmental Management Office and appropriate local

environmental regulatory agencies would be notified of the situation within 24 hours.

- To prevent accidental releases, all material and equipment used during the proposed action would be maintained in good condition and proper working order.

Noise

- Local noise ordinances exempt construction-related noise as long as it occurs during specific hours. Nevertheless, when practicable, construction equipment should be operated at the furthest distance from the direction of the noise receptor to reduce noise levels from construction.
- Construction activities would occur between 7 AM and 5 PM, Monday through Friday to limit noise impacts.
- Construction contracts shall specify that all construction equipment shall be equipped with mufflers and other suitable noise attenuation devices.
- All engine-powered equipment would have mufflers installed according to the manufacturer's specifications, and would comply with applicable equipment noise standards.
- Construction crews would locate stationary construction equipment as far from nearby noise sensitive properties as possible.
- Idling equipment would be shut off when possible.
- All residential units and other sensitive receptors located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed project. All notices shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can inquire about the construction process and register complaints.

Cultural Resources

- In the event that archaeological or traditional resources are encountered during the course of grading or construction, all activities must temporarily cease in these areas until the resources are properly assessed and subsequent recommendations are determined by a qualified consultant.
- In the event that human remains are discovered, there shall be no disposition of such human remains, other than in accordance with the procedures and requirements set forth in 36 CFR Part 800.13, California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. These code provisions require notification of the County Coroner and the Native American Heritage Commission, who in turn must notify those persons believed to be most likely descended from the deceased Native American for appropriate disposition of the remains. Excavation or disturbance may continue in other areas of the project site that are not reasonably suspected to overlie adjacent remains or cultural resources.

3.0 AFFECTED ENVIRONMENT

This chapter describes the existing environmental conditions of the proposed action and alternatives and the surrounding area. It provides information to serve as a baseline from which to identify and evaluate environmental changes resulting from the proposed construction and development of a parking structure on one of four sites within or adjacent to the Los Angeles Air Force Base (LAAFB). Specific areas addressed include air quality, hydrology, water quality, geology and soils, biota, visual resources, population, socioeconomics, transportation and utilities, health and safety, noise, and cultural resources. The baseline conditions, assumed for the purposes of the analysis, are the conditions that existed at the time that this Environmental Assessment was prepared (2006).

3.1 NATURAL ENVIRONMENT

The natural environment of the LAAFB and the surrounding El Segundo area has changed dramatically since the early 1900s to accommodate the needs of the growing population in the Los Angeles area. The LAAFB is predominantly developed, with the exception of small landscaped areas around buildings and parking lots. The LAAFB does not contain any undisturbed, natural areas. Areas surrounding the LAAFB are also predominantly developed, with minimal undisturbed or natural areas.

3.1.1 Air Quality

The climate around the project site, as with all of Southern California, is controlled largely by the strength and position of the subtropical high pressure zone over the Pacific Ocean. The climate is characterized by moderate temperatures and comfortable humidity. The Pacific high pressure zone dominates the local weather patterns and creates a repetitive pattern of frequent early morning cloudiness, hazy afternoon sunshine, daytime onshore breezes, and little temperature change throughout the year. Maximum temperatures range from approximately 65.9º F in January to 86.9º F in August. Minimum temperatures range from approximately 51.4º F in January to 68.2º F in August. Average annual precipitation is approximately 12 inches, and the majority of this rainfall occurs between November and March (National Weather Service). This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds. Winds in the project area 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.

Federal and State Standards

Air quality in the United States is governed by the Federal Clean Air Act (CAA). In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, the CAA is administered by the United States Environmental Protection Agency (USEPA). In California, the CCAA is administered by the California Air Resources Board (CARB) at the state level and by the Air Quality Management Districts at the regional and local levels.

As required by the Federal CAA, the National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: carbon monoxide, nitrogen oxides, ozone, particulate matter, sulfur oxides and lead. Pursuant to the CCAA, the State of California has also established ambient air quality standards, known as the California Ambient Air Quality Standards (CAAQS). These standards are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. Since the CAAQS are more stringent than the NAAQS, the CAAQS are used as the comparative standard in the air quality analysis contained in this EA. The CARB is responsible for preparing the plans for meeting the NAAQS and CAAQS.

The CARB has delegated much of its air pollution control authority to local air pollution control districts and air quality management districts. For example, the CARB does not have permit authority over the proposed project. That authority has been delegated to local air districts. Each air district has jurisdiction over air quality in an air basin or portion of an air basin. The air quality regulatory authority monitoring the Los Angeles Basin, including LAAFB, is the South Coast Air Quality Management District (SCAQMD). The SCAQMD has jurisdiction over the approximately 10,743 square miles of all of Orange County, most of Los Angeles County, and portions of San Bernardino County and Riverside County. Ambient pollution concentrations recorded in Los Angeles County are among the highest in these four counties.

Both State and federal standards are summarized in Table 3-1. These standards have been established to protect the public health, protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare.

Table 3-1 National and California Ambient Air Quality Standards		
Pollutants	**National Standards[1]**	**State Standards[2]**
Lead (Pb)	1.5 μg/m^3 (calendar quarter)	1.5 μg/m^3 (30-day average)
Sulfur Dioxide ($S0_2$)	0.14 ppm (24-hour) 0.03 ppm (annual arithmetic mean) 0.5 ppm (3-hour)	0.25 ppm (1-hour) 0.04 ppm (24-hour)
Carbon Monoxide (CO)	9.0 ppm (8-hour) 35 ppm (1-hour)	9.0 ppm (8-hour) 20 ppm (1-hour)
Nitrogen Dioxide (NO_2)	0.053 ppm (annual arithmetic mean)	0.25 ppm (1-hour)
Ozone (O_3)	0.12 ppm (1-hour)	0.09 ppm (1-hour) 0.080 ppm (8-hour)
Respirable Particulate Matter (PM_{10})	150 μg/m^3 (24-hour) 50 μg/m^3 (annual arithmetic mean)	50 μg/m^3 (24-hour) 20 μg/m^3 (annual arithmetic mean)
Fine Particulate Matter ($PM_{2.5}$)	65 μg/m^3 (24-hour) 15.0 μg/m^3 (annual arithmetic mean)	12 μg/m^3 (annual arithmetic mean)
Sulfate	None	25 μg/m^3 (24-hour)
Hydrogen Sulfide	None	0.03 ppm (1-hour)
Vinyl Chloride	None	0.01 ppm (24-hour)
Visual Range	None	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (8-hour) w/humidity < 70 percent

Source:
1. www.epq.gov/air/criteria.html
2. www.arb.ca.gov/aqs.htm

Attainment Status

The CCAA requires the CARB to designate areas as either attainment or non-attainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as non-attainment for a pollutant if air quality data show that a State standard for a pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard, and are not used as a basis for designating areas as non-attainment.

Under the CCAA, Los Angeles County, including the LAAFB, is designated as a non-attainment area for ozone, fine particulate matter ($PM_{2.5}$), and respirable particulate matter (PM_{10}). The county is designated as an attainment area for nitrogen dioxide, sulfur dioxide, sulfates, and lead. The county is in non attainment for carbon monoxide, and is unclassified for hydrogen sulfide and visual range. No data was available for vinyl chloride (CARB 2004).

LAAFB has significantly reduced its use of ozone-depleting substances (ODS) chemicals since it instituted its ODS reduction program. Compared to the CY92 baseline, FY00 saw a 79.4 percent reduction in ODS uses. Class I ODS purchases ceased in CY95. A plan exists to replace ODS refrigerants and fire fighting agents for 100 percent reduction in ODS (LAAFB General Plan).

3.1.2 Water Resources

There are no lakes, rivers, or streams that flow within, through or near any of the four alternative sites within or adjacent to LAAFB. In addition, no ephemeral ponds or natural drainage exists on LAAFB property. According to the El Segundo Public Works Department, the City of El Segundo does not participate in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map program. However, the entire city is considered to be located in Zone C defined as areas outside the 500-year flood plain with less than 0.2 percent annual probability of flooding, and annual probability of flooding of less than one percent.

LAAFB has relatively flat topography with surface elevations ranging from 92 feet above mean sea level (amsl) along the southern edge of the property to 98 feet amsl along the northern edge. The vast majority of LAAFB is covered by impermeable surfaces, primarily for buildings and asphalt-paved vehicle parking. Due to the small amount of exposed soils, there is very little infiltration of rainfall. The majority of precipitation leaves the installation via evaporation or in the form of storm water runoff. The storm water 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.

LAAFB is located in Section 17 of Township 3 South, Range 14 West, 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 site vicinity is at a depth greater than 40 feet below the existing ground surface. The hydrogeologic units in the subsurface at LAAFB are the San Pedro Formation, the Lakewood Formation, and the Older Dune Sand unit. The Older Dune Sand is the uppermost water-bearing unit underlying LAAFB. It occurs as a semi-perched, unconfined aquifer, with groundwater flow generally in an east-to-west direction, toward the Pacific Ocean. LAAFB Environmental staff indicated the depth to the water table at LAAFB is approximately 90 feet below grade (LAAFB EIS/EIR 2003).

3.1.3 Geology and Soils

LAAFB lies within the western portion of the Los Angeles Basin, a topographic lowland plain. Unconsolidated and indurated sediments, ranging in age from Jurassic to Recent, characterize the stratigraphy of the Los Angeles Basin. LAAFB is located in the City of El Segundo on the physiographic feature known as the El Segundo Sand Hills. The hills extend from the ocean to approximately 3.5 miles inland, from Ballona Gap on the north to Torrance and the Palos Verdes Hills on the south. Regionally, the LAAFB is located within the Peninsular Ranges geomorphic province, which is characterized by elongated northwest-trending mountain ridges separated by straight-sided sediment-filled valleys.

The City of El Segundo is located in a region of historic seismic activity. Active faults known to exist in the vicinity include the San Andreas, Newport-Inglewood, San Fernando, Sierra Madre, Verdugo, and San Andreas Faults. The Newport-Inglewood fault zone is located approximately three miles northeast of LAAFB. Certain areas of the City with high groundwater tables underlain by sand dune formations have a high potential for liquefaction (the transference of soils from a solid state to a liquid state). These areas parallel the coastline in the extreme western portion of the City along Vista Del Mar and in the eastern portion of the City running generally from Aviation Boulevard northwest to Imperial Highway just west of Sepulveda Boulevard (El Segundo General Plan, 1992).

Subsurface soils at LAAFB include silty fine sand from the ground surface to approximately five feet below and clayey sand from a depth of five to ten feet. Fill material has been found overlying the natural soil at depths of zero to three feet. This material consists of dark brown to dark gray, clayey silt. Alluvial sediments are believed to underlay the site to a depth of 600 feet. Lithologic logs from soil borings drilled on

LAAFB indicate that the underlying alluvial deposits consist primarily of interbedded lenses of silty sand, clayey sand, lean clay, and silty lean clay of variable thicknesses.

The youngest deposits underlying LAAFB consist of a thin veneer of late Pleistocene quartz dune sand. These deposits are mapped as the Older Dune Sand deposits and consist of fine-to-medium grained sands with minor amounts of gravel, sandy silt, and clay. The Older Dune Sand ranges up to 200 feet in thickness (LAAFB EIS/EIR 2003).

3.1.4 Biological Resources

Vegetation

The LAAFB is located within the South Coast subregion of the California Floristic Province's Southwestern California region. The LAAFB has been completely disturbed at various times over a long history of industrial use. Substantial modification of natural topography and substrates has occurred on the site. Native vegetation on LAAFB was removed during construction of the Base in the 1950's. Existing trees, grass, and shrubs on the site have all been introduced as landscaping features.

Wildlife

Wildlife habitat and values on and adjacent to the LAAFB are considered to be minimal, primarily because the natural condition of the area has been substantially altered by decades of urban development including construction of residential, commercial and industrial projects and related transportation infrastructure.

Special Status Species

Protected sensitive species are usually classified by both state and Federal resource management agencies as threatened or endangered, under provisions of the state and federal Endangered Species Acts. The Federal Endangered Species Act (ESA) of 1973 defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range…." Threatened species are defined as "any species which is likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range…."

California's Endangered Species Act (CESA) defines an endangered species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The state defines a threatened species as "…a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts

required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species."

Appendix A includes Tables for ESA and State-listed species identified as having potential to exist within Los Angeles County. However, because of the urban character of the LAAFB and surrounding area, no habitat to support federal or state listed special status plant or wildlife species exists in the project area.

3.1.5 Visual Resources

LAAFB is an approximately 54-acre, rectangular shaped site bound by major roads and industrial facilities. The installation is relatively flat and contains a variety of offices, shops, warehouses and ancillary facilities constructed between 1942 and the present. The visual character of LAAFB is largely driven by several large, office buildings and hangar-shaped buildings that are visually prominent from surrounding area. A small amount of landscaped area is provided along the borders of the installation and at the main gate entrance. Landscaping also exists near the newly constructed buildings, including the recreation center. Otherwise, LAAFB is primarily developed and paved. The boundary of LAAFB is fenced with a combination of chain-link fencing and concrete block/wrought iron fencing, approximately six feet in height.

The areas surrounding LAAFB are predominantly commercial and industrial. The Northrop Grumman facility located immediately north of the Base is a large industrial plant containing utilitarian industrial buildings approximately 50 feet in height. Other large office complexes/campuses in the vicinity of LAAFB include Aerospace Corporation to the south and the Lockheed Martin/Computer Sciences Corporation (CSC) building to the east. The visual characteristics of these business and industrial buildings generally serve to define the visual characteristics of the area surrounding the installation. The Del Aire residential community is located in unincorporated Los Angeles County to the northeast of LAAFB, behind the existing commercial and industrial buildings, and does not contribute substantially to the visual character of the area immediately surrounding the Base.

3.2 MAN-MADE ENVIRONMENT

LAAFB is located in the city of El Segundo, in an area that was first developed in the early 1900s. In 1911, Standard Oil bought 840 acres of land south of the current LAAFB. El Segundo was incorporated six years later. The Los Angeles International Airport officially opened in 1930, and had a major role in the town's development. Since that time, El Segundo has become an urbanized area characterized by concentrations of office, light industrial, manufacturing, and related uses and is known as a center for aerospace

and technology. The headquarters of many of the nation's prime military contractors and high-tech firms are located in the area. The LAAFB, which is the home of the Space and Missile Systems Center, is considered to be the heart of the nation's space enterprise technology sector.

3.2.1 Population and Socioeconomics

Population increased from 1990 to 2000 in Los Angeles County and in each of the six selected municipalities in the South Bay district. The rate of change in those South Bay cities averaged 10.36 percent, which was considerably higher than the Los Angeles County average growth rate of 7.40 percent. El Segundo's rate of growth was about 5.30 percent, which is likely a reflection of the overwhelming office and industrial nature of the city.

In 2000, the population of El Segundo was 16,033 and that of the surrounding Los Angeles County was 9,519,338. However, in that same year the greater Los Angeles-Riverside-Orange County Metropolitan Area recorded a population of 16,373,645, which was an increase of nearly 13 percent over 1990. According to the U.S. Census, the greater Los Angeles metropolitan area is growing at the second highest rate of increase for metropolitan areas in the U.S. for cities with populations of five million or more. The 1992 El Segundo General Plan's "Preferred Plan" scenario predicted that the City would contain 16,504 people by the year 2010, a figure the Census Bureau estimates has already been exceeded (LAAFB General Plan, 2000).

Population growth in the area is projected to increase substantially over the next decade, adding more than a million people in Los Angeles County alone between the years 2000 and 2010. In some rapidly developing urban areas existing population levels will almost double between 2000 and 2010.

Median household income data is compared in Table 3-2 for the City of El Segundo, Los Angeles County, and the entire state of California. El Segundo has considerably higher median household incomes when categorized by age than either Los Angeles County or California in nearly every category. The only exception is with householders between 65 and 74 years of age.

Table 3-2 Median Household Income By Age ($ in 1999)			
	El Segundo	**Los Angeles County**	**California**
Median household income	61,341	42,189	47,493
Householder under 25	34,539	22,489	24,742
Householder 25-34	56,601	38,096	44,424
Householder 35-44	75,065	47,116	54,365
Householder 45-54	70,045	54,582	61,312
Householder 55-64	61,586	51,898	55,742
Householder 65-74	31,767	35,175	37,000
Householder 75 and older	40,063	25,368	27,081

Table3-3 compares the per capita incomes based on race and ethnicity between El Segundo, Los Angeles County, and California. El Segundo has considerably higher per capita incomes when categorized by race or ethnicity than either Los Angeles County or California in every category.

Table 3-3 Per Capita Income by Race or Ethnicity ($ in 1999)			
	El Segundo	**Los Angeles County**	**California**
Per capita income	33,996	20,683	22,711
White	35,418	27,366	27,707
Black or African American	33,199	17,341	17,447
Native American	31,312	14,629	15,226
Asian	37,115	20,595	22,050
Native Hawaiian and Pacific Islander	18,100	13,344	15,610
Some other race	21,219	9,972	10,579
Two or more races	14,976	14,782	14,573
Hispanic or Latino	24,676	11,100	11,674

El Segundo's income characteristics are substantially above Los Angeles County and the State of California. The primary reason for this difference is that El Segundo is a key employment center for high technology industry and serves as the headquarters for many companies including: Raytheon, Boeing, Northrop Grumman Corporation, DIRECTV,

Mattel, The Aerospace Corporation, and several professional sports organizations, including the L.A. Lakers, L.A. Kings, and L.A. Sparks (LAAFB General Plan, 2000).

Table 3-4 compares the percentages of the population's race and ethnicity between El Segundo, Los Angeles County, and California.

Table 3-4
Race and Ethnicity in Project Area

	El Segundo	Los Angeles County	California
White	83.6%	48.7%	59.5%
Black or African American	1.2%	9.8%	6.7%
American Indian and Alaska native	0.5%	0.8%	1.0%
Asian	6.4%	11.9%	10.9%
Native Hawaiian and other Pacific Islander	0.3%	0.3%	0.3%
Some other race	3.5%	23.5%	16.8%
Two or more races	4.5%	4.9%	4.7%
Hispanic or Latino	11.0%	44.6%	32.4%

The Los Angeles metropolitan area will be increasingly ethnically mixed, with most of the growth expected to occur in Latino and Asian households. In 2000, the racial makeup of the city was 83.6 percent White, 1.2 percent Black or African American, 0.5 percent Native American, 6.4 percent Asian, 0.3 percent Pacific Islander, 3.5 percent from other races, and 4.5 percent from two or more races. Eleven percent of the population was Hispanic or Latino of any race. According to the LAAFB General Plan, a population increase of approximately 800,000 in LA County from 2000 to 2010 is projected to occur in Hispanic groups.

According to the South California Association of Governments' (SCAG) estimates, El Segundo's resident population will increase to 18,160 by the year 2010. This number translates into an average growth rate of 0.96 percent per year for the ten-year period between 2000 and 2010. Over the same period, households are projected to increase to 8,540 units, and increase of 1,279 for the 2000 Census figure of 7,261 units.

Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," issued by the White House in February 1994, ensures that any adverse human health and environmental effect of an agency's actions

that may disproportionately impact minority and low-income populations (including Native American groups) are identified and addressed. Existing laws such as NEPA provide the context and opportunity for Federal agencies to identify, address, and consider in decisions any potentially hazardous impacts.

Environmental Justice aims to ensure the fair treatment and meaningful involvement of all people with respect to developing, implementing, and enforcing environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic or socioeconomic group, should bear a disproportionate share of potentially adverse human health and environmental effects of a Federal agency action, operation, or program. Meaningful involvement implies that potentially affected populations have the opportunity to participate in the decision process and their concerns are considered in the agency's decision.

As depicted in Table 3-4, the project area has a low percentage of minorities, including Native Americans. Median income in the El Segundo area is higher than the County and State. The project alternatives are entirely located in non-residential areas.

3.2.2 Land Use

Land Status

The proposed action and all alternatives would take place on property currently owned by the LAAFB with the exception of Alternative 4. LAAFB is within the City of El Segundo, Los Angeles County, California. Alternative 4 is located on private land, also within the City of El Segundo.

Lands in the immediate vicinity of LAAFB are private lands administered by El Segundo, Los Angeles County (to the east), and the City of Hawthorne (southeast).

Existing Land Use

The LAAFB is an approximately 54-acre, rectangular shaped site bounded on the north by the Northrop Grumman industrial property; on the west by Douglas Street; on the east by Aviation Boulevard and on the south by El Segundo Boulevard. Existing land use on the Base consists of residential, recreational, office, and light industrial uses. The installation contains 12 major buildings and several smaller buildings. The majority of buildings are utilitarian offices, commissary, Base Exchange, fitness center, medical clinic, and child development center along with ancillary support facilities. The majority of the buildings on LAAFB have been constructed since 2000. The Schriever Space Complex of office buildings houses the majority of the workforce at LAAFB. These three buildings were completed in 2005 and replaced the aging infrastructure that was located at Area A.

The areas surrounding LAAFB are predominantly commercial and industrial. The Northrop Grumman facility located immediately north of LAAFB is a large industrial plant. Other large office complexes/campuses in the vicinity of the installation include Aerospace Corporation to the south, offices and commercial space is located to the west, and the Lockheed Martin/Computer Sciences Corporation (CSC) building to the east. The closest residential area to the LAAFB is the Del Aire residential community, located northeast of the Base behind existing commercial and industrial buildings.

Planned Land Use

The California Government Code requires each city and county to have a planning agency responsible for developing a General Plan. Each General Plan lays out the planning goals for the locale, identifies specific districts with special features, such as historic districts or market districts, and outlines what uses are consistent with the General Plan goals.

The City of El Segundo General Plan was adopted in 1992. It sets forth goals and policies for the future development of the City and designates the location of desired future land uses within the City. The General Plan Land Use Element map has recently been updated and it depicts the LAAFB property as Federal Government. Land to the north and west of LAAFB is designated as Commercial Center. Land to the south of El Segundo Boulevard is designated as Light Industrial and land to the east of Aviation Boulevard is Corporate Office. A narrow strip of land immediately east and adjacent to LAAFB is designated for Parking and is depicted as the 124th Specific Plan. The narrow parcel near the northwest intersection of El Segundo Boulevard and Aviation Boulevard (3.93 ac), between El Segundo Boulevard and 124th Street, is a Specific Plan area (124th Street Specific Plan) which encourages primarily warehousing and storage uses; however, a City Water Facility may also be developed on the site (Ord. 1309, GPA 99-1, 8/17/99). This property contains an underground petroleum pipeline easement owned by ExxonMobil. This easement runs along the western portion of this parcel, adjacent to LAAFB.

Southeast of LAAFB, the City of Hawthorne recently annexed the former LAAFB Area A and the area is being converted to housing. Lands located northeast of LAAFB in the County of Los Angeles are planned for low density residential uses.

Planned land use on LAAFB is directed by the LAAFB General Plan. The Plan indicated that a covered parking structure would be constructed at an area designated in this EA as Alternative Site 3. In addition, LAAFB has indicated that it is proceeding with the construction of a running track around the Schriever Space Complex in the near future.

Zoning

The project area is generally governed by the Zoning Code for the City of El Segundo. Subject to the city's General Plan, the zoning code establishes permitted uses and development standards in the City. The zoning of the land parcels immediately adjacent to LAAFB is consistent with the General Plan designations described above. Of El Segundo's 2,724 usable acres, approximately 20 percent are zoned for residential, school and city government, while the remaining 80 percent is zoned for commercial and industrial use (http://www.elsegundo.org).

The LAAFB is currently zoned as Public Facilities. Land to the north and west of LAAFB is zoned as General Commercial. Land to the south of the LAAFB, south of El Segundo Boulevard, is zoned as Light Industrial. Land to the east of Aviation Boulevard is zoned as Corporate Office. A narrow strip of land immediately east and adjacent to Aviation Boulevard is designated for Parking and is depicted as the 124th Specific Plan. Lands in the vicinity of the Base administered by the County of Los Angeles and the City of Hawthorne are generally zoned Residential, although land along Aviation Boulevard is zoned as Commercial and Industrial.

3.2.3 Transportation and Utilities

Transportation

LAAFB is accessible from a variety of transportation modes and control points. Los Angeles International Airport is approximately two miles north of the Base. The northern portion of LAAFB is less than one-half mile from both I-105 and I-405 Freeways. Interstate 405 is a north-south freeway facility located just east of the City's boundary that in 2004 had daily traffic volumes of approximately 280,000 vehicles per day along the segment bordering El Segundo. Interstate 105 is a 17-mile long, eight-lane east-west freeway, with high-occupancy vehicle lanes in each direction. It is located adjacent to and elevated above the at-grade Imperial Highway at the City's northern boundary. The majority of employees commuting to LAAFB utilize Interstate 405 and 105 as part the daily commute. LAAFB is also tied into the local and area-wide transportation system via three major streets that offer vehicular and pedestrian access: Aviation Boulevard, Douglas Street, and El Segundo Boulevard.

El Segundo Boulevard is an east-west major arterial east of Sepulveda Boulevard, that extends east through the City of Hawthorne, terminating in the City of Compton. El Segundo Boulevard is the southern boundary of LAAFB. The major arterial portion of El Segundo Boulevard is approximately 90 feet in width, with three travel lanes per direction and left- and/or right-turn channelization at major intersections. Freeway access to the I-405 Freeway is provided along El Segundo Boulevard. Access to the LAAFB main gate is primarily from Douglas Street via from El Segundo Boulevard. El Segundo

Boulevard between Sepulveda Boulevard and Aviation Boulevard carries more than 29,000 vehicles per day (VPD). During the morning peak travel hour, approximately 850 vehicles per hour (VPH) travel eastbound and 2,100 VPH travel westbound on El Segundo Boulevard in the project vicinity. During the afternoon peak travel hour, traffic volumes on this stretch of roadway are about 2,200 VPH eastbound and 900 VPH westbound (LAAFB EIS/EIR 2003).

Aviation Boulevard is a north-south major arterial along the eastern edge of LAAFB. Aviation Boulevard is 72 feet in width through the project area and provides two lanes of traffic in both directions. Left-turn channelization is also provided on Aviation Boulevard at most intersections. "No Stopping Any Time" prohibitions are posted on this roadway throughout the study area. A Metro Green Line transit station exists at the southeast corner of Aviation Boulevard and Imperial Highway. Traffic volume for the section of Aviation Boulevard between El Segundo Boulevard and Imperial Highway is about 23,000 vehicles daily. During the morning peak travel hour, approximately 1,000 VPH travel northbound and 800 VPH travel southbound on Aviation Boulevard in the project vicinity. During the afternoon peak travel hour, nearly 1,300 VPH travel southbound and 1,400 VPH travel northbound on this roadway (LAAFB EIS/EIR 2003).

Douglas Street is a 102-foot wide, one-way northbound secondary arterial between Imperial Highway and El Segundo Boulevard. Six travel lanes are provided along this portion of the roadway. Douglas Street creates the western boundary of LAAFB. On-street parking is prohibited on Douglas Street in the project area. Access to eastbound I-105 is provided via this roadway segment. Douglas Street between Imperial Highway and El Segundo Boulevard carries over 10,000 VPD. During the morning peak travel hour, approximately 500 VPH travel northbound in the project vicinity. During the afternoon peak travel hour, approximately 700 VPH travel northbound in the project vicinity (LAAFB EIS/EIR, 2003).

A series of roadway improvements are either planned, funded or currently under construction according the City of El Segundo General Plan. Conversion of Douglas Street to a two way operation between Imperial Avenue and El Segundo Boulevard is planned for the future. In addition, all necessary intersection improvements will be made to accommodate the two way operation (El Segundo General Plan, 1992).

Public transportation in the vicinity of LAAFB consists of fixed bus routes, taxi, and light rail (LAAFB General Plan, 2005). Currently an estimated 40-45% of the LAAFB employees participates in a ride share program or utilizes public transit. This rideshare participation is among the highest within the South Coast Air Quality Management District.

Directly east of the LAAFB, and adjacent to Alternative Site 4, is a rail road right of way owned by the Metropolitan Transit Authority (MTA). Burlington Northern & Santa Fe (BNSF) utilized the rail line to move goods from the Port of Los Angeles and Port of Long Beach. BNSF utilizes the rail road infrequently since the opening of the Alameda Corridor rail corridor. MTA currently has no plans for usage of the rail right-of-way adjacent to LAAFB.

Utilities

Sewer

LAAFB is within the boundaries of Los Angeles County Sewer District No. 5, which is served by the Joint Water Pollution Control Plant (JWPCP) located in the City of Carson. District No. 5 encompasses parts of the Cities of El Segundo, Inglewood, Hawthorne, Los Angeles, Lawndale and Manhattan Beach. The JWPCP has been in operation since 1928 and is part of the County Sanitation Districts of Los Angeles County Joint Outfall System. The JWPCP has a design capacity of 385 million gallons per day (mgd) and currently processes an average flow of 323.8 mgd. Plans are in place to expand the plant to 400 mgd by the year 2010 (LAAFB EIS/EIR, 2003).

Water

LAAFB is served by the City of El Segundo Water Division. The Water Division has a water capacity of 70 cubic feet per second (cfs) and a daily average flow of 20 cfs. The average daily peak demand is approximately 16.9 mgd. The West Basin Municipal Water District, which administers water supply and distribution for the Metropolitan Water District for California, is responsible for providing water to the City of El Segundo and for ensuring that the delivered water quality meets applicable California Department of Health standards for drinking water.

Solid Waste

Local private contractors collect and dispose of solid waste generated at LAAFB. The nearest major landfill to the site is the Puente Hills Facility that is owned and operated by the County Sanitation Districts of Los Angeles.

Natural Gas

The natural gas main connection to LAAFB is located at the southern property line near El Segundo Boulevard. The distribution system consists of 2,457 linear feet of underground gas lines and is the property of the LAAFB (LAAFB EIS/EIR, 2003).

Electricity

Southern California Edison (SCE) provides electricity service to LAAFB, owns the transformers and maintains the electrical distribution system. The electrical distribution

system consists of approximately 8,069 liner feet of underground lines that are owned by LAAFB. Stand-by generators, which are greater than 50 bhp, provide backup power for buildings 272, 270, 271 and 210. The existing land uses on LAAFB consume approximately 51,661 Kilowatt-hours of electricity per day.

3.2.4 Health and Safety

Emergency Infrastructure

The project area is served by Military Police operating within the LAAFB boundaries, El Segundo Police Department, and the LA County Sheriff's Department. Fire protection and emergency services in the project vicinity are provided by the City of El Segundo Fire Department (ESFD). El Segundo has two fire stations: the Headquarters Station is located at 314 Main Street; Station No. 2 is presently located at 2161 East El Segundo Boulevard. The City of El Segundo is considering plans to relocate Station No. 2 to a new site less than one mile north of the current location on Mariposa Street between Nash Street and Douglas Street.

The City of El Segundo had addressed emergency preparedness in an Emergency Operations Plan (EOP). The Plan is applied during emergency situations involving natural disaster (fire, earthquake, flood, storm, or tsunami), major accidents (transportation, industrial, and nuclear), civil disturbances, pollution episodes, epidemics, and war emergencies. The EOP provides a basis for operations and for managing critical resources during emergencies, delineation of lines of authority and responsibility, and procedures for requesting interagency and private assistance.

Hazards

Certain areas of the City with high groundwater tables underlain by sand dune formations have a high potential for liquefaction (the transference of soils from a solid state to a liquid state). Liquefaction of soils during an earthquake can cause severe damage due to ground and/or slope failure and could result in property damage, injury, and loss of life. Figure 3-1 depicts areas in the vicinity of LAAFB with high potential for liquefaction. LAAFB is located several miles inland and south of the nearest seismic hazard area.

There are no major dams or waterways located near the LAAFB; as a result, flooding is not considered to be a primary public health or safety concern. However, the potential for flood hazard is most specifically related to localized flooding that may result from inadequate storm drains during periods of heavy rainfall. Localized flooding due to an inadequate storm drain system could result in property damage and cause the disruption of traffic.

Fire risks in the area of the LAAFB are primarily associated with industrial facilities using large amounts of flammable or toxic materials, high-rise buildings, and older buildings with substandard electrical and heating systems.

Hazardous Materials

Many of the industries operating in El Segundo and the surrounding area use hazardous materials in their operations. Since industry is the major land use in the City and the region, hazardous materials use and management is a serious consideration. State regulations mandate that each business using hazardous materials prepare a business plan listing the types and quantities of materials used and their associated risks. These plans are to be submitted to the El Segundo Fire Department. The Fire Department maintains a list of all companies using hazardous materials, an inventory of those materials, and an assessment of the risks posed by the materials at each facility. Each facility is inspected to ensure that materials are properly managed on site.

LAAFB has developed and implemented an installation Hazardous Waste Management Plan (HWMP) that defines and establishes the hazardous waste management program on the Base. The HWMP includes policies to ensure that LAAFB conducts activities in a manner that protects and enhances environmental quality. The plan implements Air Force Instruction 32-7042, the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984, and the California Hazardous Waste Control Law. It applies to all LAAFB activities and outlines responsibilities and procedures for the generation, collection, identification, storage, spill prevention, and control of hazardous waste.

LAAFB is designated as a RCRA large quantity generator (EPA ID CA6572026296). Hazardous waste generated throughout the Base is stored at several different initial accumulation points prior to consolidation at accumulation sites for off-site disposal. After consolidation, hazardous waste is shipped from the accumulation sites to off-base treatment, storage, and disposal facilities.

Legend:

Historical or Potential Liquefaction Areas

MALCOLM PIRNIE

Seismic Hazard Zones Map

LAAFB EA

August 2007 | **Figure 3-1**

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Other small volumes of hazardous materials and waste are stored on site in Hazardous Materials Issue Centers. The majority of the hazardous materials stored at these locations consist of small volumes of paint, batteries, petroleum products, and routine bio-hazardous waste from the medical clinic. Other potentially hazardous materials are stored in various locations throughout LAAFB. These materials include combustible liquids, corrosive liquids, and compressed gases.

Within the soils at LAAFB transite pipe may be present. During past construction of the Child Development Center and Schriever Space Complex, transite pipe was uncovered during excavation and site grading. LAAFB has an Asbestos Management Plan that establishes the program in which to identify, document, and manage asbestos containing material.

An Installation Restoration Program (IRP) Phase I Records Search was conducted for the LAAFB EIS/EIR and identified eight sites of environmental concern on LAAFB. As documented in the EIS/EIR, the sites have been closed and requests for no further action were accepted by the responsible agencies.

A subsurface soil investigation conducted in the vicinity of the former Building 215 seepage pit identified hazardous substances. The seepage pit was removed, field investigations were conducted, and the 1997 IRP Decision Document indicated no further response action planned for the seepage pit site (LAAFB EIS/EIR, 2003).

An armory is located in the Security Forces Operations portion of Building 272 on the first floor. According to site personnel, the armory is the only area where munitions are stored at LAAFB. Real Property Accountable Records indicate that former Building 221 was at one time used to store explosives. A bunker located east of Building 221 was used to calibrate aircraft gun sights (via test firing) during U.S. Navy occupation of the site. The building is no longer present.

Regulatory Database Review

CERCLIS Database – The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database is a compilation of sites which the United States Environmental Protection Agency (USEPA) has investigated or is currently investigating for a release or threatened release of hazardous substances. The CERCLIS database indicates that a preliminary assessment was completed for the property associated with LAAFB in 1992, and the site was assigned a low priority status with no impending need to investigate further (LAAFB EIS/EIR, 2003).

Underground Storage Tanks Database – Records indicate that the three original Underground Storage Tanks (USTs) and replacement USTs were removed from LAAFB. Currently no USTs are located on LAAFB Area B. The former USTs were all associated with the Army and Air Force Exchange Service (AAFES) automobile service station adjacent to former Building 235, just east of the Building 271. Assessment and remediation of soils at the former AAFES gas station was done under the oversight of the Regional Water Quality Control Board. No Leaking Underground Storage Tanks (LUSTs) were identified at LAAFB.

Above-ground Storage Tanks – A single above-ground tank is located at Building 228. This 500 gallon tank is used to store diesel fuel for the fire pump.

3.2.5 Noise

Noise is defined as unwanted sound. Sound travels in waves from a specific source and exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB). Zero dB corresponds roughly to the threshold of average human hearing and 120 to 140 dB corresponds to the threshold of pain. Human response to noise is subjective and can vary greatly from person to person. Factors that can influence individual response include intensity, frequency, and time pattern of the noise; the amount of background noise present prior to the intruding noise; and the nature of work or human activity that is exposed to the noise. The adverse effects of noise include interference with concentration, communication, and sleep. At high levels, noise can cause hearing damage.

Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discrimination against frequencies in a manner approximating the sensitivity of the human ear. Table 3-5 provides information on various noise sources and the typical human response.

Table 3-5 Common Estimated Noise Levels		
Noise Source	**dBA Noise Level**	**Response**
Carrier Jet Operation	140	Harmfully Loud
Whistles Sporting Event	130 127	Pain Threshold
Jet Take off (200 feet) Discotheque	120	
Unmuffled Motorcycle Auto Horn (3 feet) Rock'n Roll Band Auto Alarm	110	Maximum Speaking Vocal Effort Physical Discomfort
Loud Power Mower Jet Take off (2,000 feet) Garbage Truck	100	Very Annoying Hearing Damage (Steady 8 -Hour Exposure)
Heavy Truck (50 feet) Pneumatic Drill (50 feet.)	90	Moderately Annoying
Alarm Clock Freight Train (50 feet) Vacuum Cleaner (10 feet.)	80	Annoying
Freeway Traffic (50 feet.)	70	Telephone Use Difficult
Dishwashers Air Conditioning Unit (20 feet)	60	Intrusive
Light Auto Traffic (100 feet)	50	Moderately Quiet
Living Room Bedroom	40	Quiet
Library Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Source: Melville C. Branch and R. Dale Beland , Outdoor Noise in the Metropolitan Environment, 1970.

Community noise levels are measured in terms of the "A-weighted decibel." The "equivalent noise level" or Leq is the average noise level on an energy basis for any specified time period. The Leq for one hour is the energy average noise level during the hour, specifically, the average noise based on the energy content (acoustic energy) of the sound. It can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level.

Several rating scales have been developed for measurement of community noise. These account for: (1) the parameters of noise that have been shown to contribute to the effects of noise on man; (2) the variety of noises found in the environment; (3) the variations in noise levels that occur as a person moves through the environment; and (4) the variations associated with the time of day.

The predominant rating scale now in use in California for land use compatibility assessment is the Community Noise Equivalent Level (CNEL). The CNEL scale represents a time weighted 24 hour average noise level based on the A-weighted decibel. Time weighted refers to the fact that noise that occurs during certain sensitive time periods is penalized for occurring at these times. The evening time period (7 P.M. to 10 P.M.) penalizes noises by 5 dB, while nighttime (10 P.M. to 7 A.M.) noises are penalized by 10 dB. These time periods and penalties were selected to reflect people's increased sensitivity to noise during these time periods. Federal agencies typically use the Day-Night Level (Ldn) description. In most applications, the differences between Ldn, and CNEL metrics are negligible.

In general, the LAAFB area is heavily affected by major sources of noise. The primary components of the existing noise environment are flight operations at Los Angeles International Airport (LAX) and vehicular traffic, primarily from the major arterials surrounding the Base, including El Segundo Boulevard, Aviation Boulevard, and Douglas Street. In addition to transportation sources, stationary noise sources, particularly from industry, contribute to ambient noise levels in the project area. General population noise and the short-term noise generated by construction are also existing noise sources.

In light of the existing and foreseeable noise environment in the City of El Segundo, and pursuant to Section 65302 (g) of the California Government Code, the City has adopted a goal with policies and programs designed to minimized the effects of these multiple sources of noise (El Segundo General Plan, 1992).

LAAFB is not an air installation and therefore is not a significant source of noise. Consequently, an Air Installation Compatible Use Zone (AICUZ) program is not in effect (LAAFB General Plan, 2000).

3.2.6 Cultural Resources

In the eleventh century, the first Chumash Indians settled in the sand dunes region of El Segundo and inhabited the area for approximately 100 years. Because of its proximity to freshwater springs, the sand dunes were preferred over the nearby beaches. However, due to severe earthquakes which eventually covered the freshwater springs, the Chumash village was ultimately abandoned.

In 1769, Father Junipero Serra established the first mission in Southern California and by the end of the 19th century Spanish rule in California concluded. After the Spanish administration, Mexican control followed from 1822 to 1848. During this time period, Alta California Governor Juan B. Alvarado granted Rancho Sausal Redondo, which included the present site of El Segundo, to Señor A.Y. Abila for military services. The area comprised approximately 25,000 acres and extended from Playa Del Rey to Redondo Beach. During the next 50 years, the land was mainly used for agricultural use. Since the 1950s, the LAAFB area has been utilized for light and heavy industrial uses.

The 2002 Integrated Cultural Resources Management Plan (ICRMP) for LAAFB considered five separate parcels within the Los Angeles Basin. These administration and operations areas of LAAFB consist of densely developed complexes of office buildings, industrial facilities, paved storage areas, and extensive parking lots. No archaeological sites were identified within any of these areas. In addition, a recent inventory and evaluation of historic-age buildings at LAAFB determined that the only two historic-age buildings in LAAFB do not meet the criteria necessary for eligibility to the National Register of Historic Places (NRHP). LAAFB does contain buildings and structures that will become 50 years old in the next 5 to 10 years.

To date, no Native American resources have been identified on LAAFB; however, no consultation has been conducted with local Native American groups to identify sensitive or sacred sites. LAAFB is located in the traditional territory of the Gabrielino-Tongva Native Americans. The Gabrielino-Tongva is not a federally recognized tribe but has been recognized by the California Legislature as “the aboriginal tribe of the Los Angeles Basin”. It is the policy of the Department of Defense (DOD) not to consult with tribes not recognized by the United States Government (LAAFB General Plan, 2000).

4.0 ENVIRONMENTAL CONSEQUENCES

Environmental Consequences describe the changes or impacts to natural and man-made environmental resources that can be expected from implementing the Proposed Action alternatives, including the No-Action Alternative. The Environmental Consequences chapter forms the scientific and analytic basis for the EA (40 CFR 1502.14). For each environmental resource or issue considered, thresholds of significance are defined, initial impacts (including the type of impacts, location, and magnitude) are assessed, and, where appropriate, mitigation is recommended to reduce impacts to less than significant levels.

Environmental impacts can be positive (beneficial) or negative (adverse) as a result of the action (direct) or as a secondary (indirect) result, and can be permanent or long-lasting (long-term), or temporary or of short duration (short-term). Impacts can vary in degree or magnitude from no change, or only slightly detectable change, to a total change in the environmental condition or system once the project has been implemented. To determine the levels or magnitude of potential impacts to the environment, standards of significance have been developed for each resource. The following factors were considered in the assessment of possible environmental impacts for the proposed project:

- Resource sensitivity – the probable response of a particular resource to project-related activities.
- Resource quantity – the amount of resource potentially affected. The impacted resources are quantified to the extent possible to determine the significance of the impact. The region of influence (ROI) for each resource may vary; those with ROI beyond the project site and immediate vicinity are identified.
- Resource quality – the present condition of the potentially affected resource.
- Duration of impact – the period of time over which the resource would be affected, measured as short-term (up to five years or as defined by the resource section) or long-term (life of the project and beyond). The anticipated duration of some impacts define their significance.

4.1 NATURAL ENVIRONMENT

4.1.1 Air Quality

Threshold of Significance

The Proposed Action alternatives would have significant, adverse effects on air quality if they:

- Violate ambient air quality or emissions standards applicable to the study area, without appropriate offsets.
- Expose sensitive receptors to detrimental pollution concentrations.

- Contribute to a cumulative air quality effect with foreseeable other projects that lead to violation of air quality standards.

Impacts from Action Alternatives

Impacts to air quality as a result of implementing the proposed action at any of the alternative sites can be separated into short-term and long-term impacts. The proposed project would have a short-term impact on air quality from construction activities. During construction, demolition of existing structures, grading of the project site, preparation of foundations and footings, and parking structure assembly would create temporary emissions of dusts, fumes, equipment exhaust, and other air contaminants throughout the project construction period. Pollutant emissions can vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing weather. Because the type and duration of construction activities at the alternative sites would be similar and the sites are all located in the same general area, separate air quality analysis is not necessary for each alternative site.

Assumptions for construction activities, including types of equipment and the number of days of expected use during each phase of construction were obtained from the LAAFB. Proposed equipment horsepower values and load factors were derived from the CEQA Air Quality Handbook (November 1993). In order to evaluate the project emissions, emission factors contained in the URBEMIS 2002 air quality modeling program. URBEMIS is a computer program that is used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, and office buildings, and of construction projects. The following outlines the anticipated impacts related to construction for the proposed project.

Based on the emission factors and assumptions for construction activities, it is anticipated that the proposed project will not exceed SCAQMD's daily threshold emission levels for the primary pollutants. Table 4-1 provides a comparison of daily construction emissions to the SCAQMD's and General Conformity emission thresholds of significance for each pollutant (SCAQMD CEQA Air Quality Handbook 1993). The SCAQMD is currently in the process of preparing a new Air Quality Handbook, to be titled the AQMD Air Quality Analysis Guidance Handbook. Chapters 2, 3 and 4 related to air quality background information and the roles of regulatory agencies are available on the SCAQMD’s Web site. Other chapters will be posted on the Web page as they become available. Revisions at the time this analysis was prepared do not include new significance thresholds or analysis methodologies.

Table 4-1 Construction Emissions						
Pollutant	**SCAQMD Threshold**	**Construction Emissions**	**Exceeds Thresholds?**	**General Confomity Thresholds?**	**Construction Emissions**	**Exceeds Threshold?**
Carbon Monoxide	550 (lbs/day)	Year 1 131.3 (lbs/day)	No	100 (tons/year)	Year 1 1.1 (tons/year)	No
		Year 2 137.8 (lbs/day)	No		Year 2 5.8 (tons/year)	No
		Year 3 126.6 (lbs/day)	No		Year 3 4.9 (tons/year)	No
Reactive Organic Compounds	75 (lbs/day)	Year 1 15.5 (lbs/day)	No	10 (tons/year)	Year 1 .01 (tons/year)	No
		Year 2 16.2 (lbs/day)	No		Year 2 0.7 (tons/year)	No
		Year 3 14.9 (lbs/day)	No		Year 3 0.6 (tons/year)	No
Nitrogen Oxides	100 (lbs/day)	Year 1 89.59 (lbs/day)	No	10 (tons/year)	Year 1 0.7 (tons/year)	No
		Year 2 94.1 (lbs/day)	No		Year 2 4.0 (tons/year)	No
		Year 3 86.4 (lbs/day)	No		Year 3 3.3 (tons/year)	No
PM_{10}	150 (lbs/day)	Year 1 2.5 (lbs/day)	No	70 (tons/year)	Year 1 .01 (tons/year)	No
		Year 2 2.6 (lbs/day)	No		Year 2 .01 (tons/year)	No
		Year 3 2.4 (lbs/day)	No		Year 3 .01 (tons/year)	No

As indicated in Table 4-1, expected carbon monoxide, reactive organic compounds, nitrogen oxide, and particulate matter emissions from project construction, would not exceed SCAQMD and General Conformity thresholds. In addition, the proposed construction activities would not be expected to expose sensitive receptors to detrimental pollution concentrations. While some cumulative air quality impacts would be expected form other existing or proposed projects in the area, these combined projects would not be expected to result in a violation of air quality standards.

PM_{10} (respirable particulate matter) and $PM_{2.5}$ (fine particulate matter) are typically substantial sources of air pollution from construction, particularly during site preparation and grading. While the estimated PM_{10} and $PM_{2.5}$ emissions are substantially below the

SCAQMD and General Conformity thresholds, construction activities at any of the alternative sites would be subject to the provisions of SCAQMD Rule 403, Fugitive Dust. Rule 403 applies to any activity or man-made condition capable of generating fugitive dust. Rule 403 requires the use of best available control measures to suppress fugitive dust emissions.

Long-term air quality impacts would result from two types of emissions sources, stationary and mobile. Stationary sources include the emissions produced from on-site energy use for operation of electrical machinery, lighting, and other equipment that consumes electricity or natural gas. Stationary source emissions are expected to be minimal because the open-air parking garage would not have air or water heating and cooling. Minimal amounts of energy would be used as a result of electrical lighting.

Mobile source emissions would be generated by vehicle trips to the proposed parking structure. Mobile source or indirect emissions projected to result from implementation of the proposed project could include vehicular pollutants such as CO, NOx, PM_{10}, and reactive organic compounds. There would be negligible impacts on air quality due to LAAFB employee vehicle emissions from the proposed action or alternatives, however, because the new parking structure would provide parking for personnel who are already commuting to the area. Currently, the majority of the personnel are parking at a lot owned by Raytheon, which is located approximately 0.8 mile west of LAAFB. Employees are currently being bused from the parking lot to the site.

Impacts from No-Action Alternative

Under the No-action Alternative, a parking structure at LAAFB would not be constructed and parking for AFB employees would continue to be off site. As a result there would be no changes to the existing conditions and no impact on air quality.

4.1.2 Water Resources

Threshold of Significance

Impacts to water resources would be considered significant if one or more of the following criteria are met:

- Project activities modify a floodway or substantially alter a floodplain, diverting floodwaters to areas previously outside the 100-year floodplain, with potential for property losses.
- The project causes surface water contamination from storm water runoff to levels above Federal and State water quality standards.
- Project activities substantially alter the area's existing drainage pattern.
- Project activities substantially degrade or deplete groundwater resources.

- Surface waters defined as "waters of the U.S." (e.g., all rivers, permanent and intermittent streams, lakes, wetlands, and natural ponds) are degraded by dredged or fill material beyond limits set by permitting agencies.

Impacts from Action Alternatives

Surface Water

LAAFB is not located within a 100-year floodplain. Construction of the parking structure at any of the alternative sites would not be expected to induce flooding and would not result in or expose people to significant impacts related to flooding.

Potential sources of short-term construction-related storm water pollution associated with the Proposed Action alternatives are: 1) earth moving activities which may generate soil erosion via storm water runoff; 2) the handling, storage, and disposal of construction material containing pollutants; and 3) the maintenance and operation of construction equipment.

Since the Proposed Action alternative involves clearing, grading, and excavation of one or more acres, a General Construction Activity Storm Water Permit must be obtained from the State Water Resources Control Board (SWRCB) prior to the start of construction. The National Pollutant Discharge Elimination System requires that a Notice of Intent (NOI) be filed with the SWRCB. By filing an NOI, the developer agrees to conditions outlined in the General Permit. The Storm Water Pollution Prevention Plan (SWPPP) identifies which structural and nonstructural best management practices (BMPs) will be implemented, such as sandbag barriers, temporary desilting basins near inlets, dust controls, employee training, and general good housekeeping practices. Implementation of the BMPs would ensure that short-term water quality impacts would be insignificant.

It is unknown at this time if the Proposed Action at LAAFB would require on-site detention of storm water because detailed design and engineering has not been conducted. However, since none of the project alternatives would substantially change the area's drainage patterns, no significant long-term surface water impacts would result.

Ground Water

Project implementation at any of the proposed alternative sites does not involve deep excavations that have the potential to intercept existing aquifers, nor would it involve direct additions or withdrawals of groundwater. Therefore, impacts to groundwater are anticipated to be insignificant.

Impacts from No-action Alternative

Under the No-action Alternative, the proposed parking structure would not be constructed. As a result, there would be no change to existing drainage patterns, and no short- or long-term impacts would occur to surface or ground water.

4.1.3 Geology and Soils

Threshold of Significance

Impacts to geology and soils are considered significant if:

- Geologic hazards (e.g., ground subsidence) would create a danger to human health and the environment.
- Soil resources are extensively disturbed resulting in severe erosion or contamination.
- Increased soil compaction would substantially alter current use or revegetative growth.

Impacts from Action Alternatives

The primary focus of the geology and soils resources investigation was to examine if accelerated soil erosion might occur. Erosion potential results from several factors, including slope, vegetation cover, climate, and the soils physical and chemical characteristics. Such factors indicate how susceptible soils are to increased erosion if disturbed. Increased soil erosion may occur when crews remove vegetation, asphalt, or concrete during construction or when heavy equipment disturbs the surface.

The four potential sites are all relatively level, and there are no unique geologic features in the vicinity. Therefore, no unique geologic features will be modified or destroyed as a result of the proposed action, and no significant impacts would occur.

Because the four potential sites are all relatively level, they are not identified as being located within areas at risk for landslides or as having the potential for seismic slope instability.

Although no known faults exist within three miles of the LAAFB, the project site is located in a seismically active area where significant ground shaking from local earthquakes can be expected. Ground shaking impacts on the project site are considered to be moderate due to the proximity of known active faults within the region. Development of the proposed project may expose the parking structure or people using the structure to impacts associated with ground shaking. Seismic design of the proposed development would be in accordance with Uniform Building Code criteria and appropriate federal, state, and local guidelines, and would reduce impacts due to ground shaking to an insignificant level.

The potential for liquefaction at any of the proposed project sites is low. Figure 3-1 depicts areas with the potential for liquefaction or earthquake induced landslides in the Los Angeles region. LAAFB is located several miles inland and south of the nearest seismic hazard area. Therefore, the Proposed Action would not result in or expose people to significant liquefaction related impacts including seismic settlement and differential compaction.

There are no significant impacts related to tsunamis, inundation, or seiches at this site. The LAAFB is located inland and the Proposed Action would not result in or expose people to significant impacts related to tsunamis, inundation, or seiches. No significant impacts with respect to subsidence are anticipated at any of the potential project locations.

A review of available reports of previous investigations indicates that high levels of imbedded methane have been observed at LAAFB. Because the parking structure construction would involve only minor amounts of sub-surface ground disturbance, impacts that may result from methane and other volatile gases would be minimal.

Impacts from No-action Alternative

Under this alternative, no changes to existing land use or facilities would occur. LAAFB would continue to utilize the alternative sites as parking lots or they would remain vacant. Soils would not be disturbed or compacted, and geologic hazards would not be affected. No significant impacts to geological and soil resources would occur as a result of implementing this alternative.

4.1.4 Biological Resources

Threshold of Significance

Biological resource impacts would be considered significant if project implementation:

- Adversely affects a listed endangered, threatened, or proposed plant or animal species or designated critical habitat
- Causes the habitat necessary for all or part of the life cycle of a species (e.g., lambing areas, migratory corridors) to disappear.
- Damages ecological processes to the extent that the ecosystem is no longer sustainable.
- Interferes with the movement of any native resident or migratory fish or wildlife species for more than one reproductive season.
- Reduces the value of habitat for fish, wildlife, or plants to an unusable level.
- Causes a native fish or wildlife population to drop below self-sustaining levels.

- Introduces or increases the spread of invasive plants or noxious weeds.
- Adversely and substantially affects important riparian areas, wetlands, or other wildlife habitats.

Impacts from Action Alternatives

The project sites for the Proposed Action and Alternatives are located in an urbanized area which is currently developed with federal, industrial, recreational, and other urban uses. Implementation of the proposed project would not remove or alter any natural or native vegetation formations on any of the proposed alternative sites. The sites contain no natural wetland habitat, coastal sage scrub or other sensitive natural assemblages. No natural plant communities or natural populations of native species would be affected, directly or indirectly, by the proposed development. Conversion of approximately 1.1 – 2.2 acres of parking lots or vacant land would not result in important or significant losses of habitat or biological support resources of native wildlife populations.

Alteration of the project areas from their existing conditions, and removal of small amounts of non-native shrubs and trees would not contribute incrementally at any level of biological significance to general losses of natural habitat within the local area. The proposed project would not generate direct significant adverse impacts to natural wildlife habitats on a local or regional scale.

No sensitive plant, invertebrate, fish, amphibian, reptile, bird or mammal species are known or expected to reside within, or occur in a resource-dependent relationship with, any portion of the alternative sites. No adverse impacts are projected for any agency-listed species known to occur as a result of the conversion of the project sites from their present condition to a multi-story parking structure. Project implementation would generate no direct significant adverse impacts to native wildlife populations or sensitive species locally or regionally.

Impacts from No-action Alternative

If the proposed facilities were not developed, some employee parking would continue to occur off-site and no changes to existing land use or facilities at LAAFB would occur. Since these areas do not contain habitat for plant or animals, the No-action Alternative would not result in significant impacts.

4.1.5 Visual Resources

Threshold of Significance

Impacts to visual resources would be considered significant if:

- The project would affect an area previously designated and managed by a state or federal agency with visual resource management objectives.

- The project would substantially affect viewsheds or landscapes identified as important by federal, state, or local governments, or by Native Americans.
- The project would substantially damage scenic resources, including, but not limited to landmarks, trees, historic buildings, or other special features within or immediately adjacent to a locally or regionally designated scenic area, or a scenic or historic transportation corridor.
- The project would substantially degrade the existing visual character or quality of the project site and its surroundings from public viewpoints, where viewers are there to examine the visual setting.
- The proposed project facilities would have a substantial adverse affect on a scenic vista.
- A sensitive view is substantially affected by introducing a negative visual element (such as creating light or reflecting glare).

Impacts from Action Alternatives

In general, all action alternatives would permanently alter the existing visual environment of the project site. The undeveloped or open character of the sites would be transformed into a multi-story parking structure.

The proposed project may result in an adverse increase in light and glare in the surrounding area of the alternative sites. Implementation of the proposed project would introduce new light sources into the project area. Light sources are anticipated to occur from the illumination of the parking structure (i.e., interior and exterior lighting). Development of the project site will incrementally increase the amount of light and glare in the vicinity of the project. Outdoor lighting due to the project will contribute to the general night sky illumination. This overall illumination will be visible from the residences northeast of the site, as well as adjacent roadways. This additional light is similar to other structures in the vicinity and would not be considered to be significant.

Vehicular related glare will increase proportionately with the increased traffic generated from project development. This glare would not be significant because vehicle parked in the parking structure, except for those on the top floor, would not be in direct sunlight. Furthermore, the on-site vehicle-related increases in glare are not considered significant in an office or industrial setting.

Alternative Site 1 is located on the northwestern corner of LAAFB. The proposed parking structure for this site would be seven floors high. The structure would be bordered to the north by the Edison Load Center and to the west by Douglas Street. To the south of Site 1 is the fitness center, to the southeast is building 272, and the Schriever Space Complex. Northern and western views from building 272, the fitness center, and the Schriever

Space Complex are currently blocked by the Edison Load Center and the commercial building and surface parking lot which is located directly west of the site across Douglas St. Views to the east from the Building 272 and the Schriever Space Complex buildings are currently blocked by other buildings located within LAAFB or commercial buildings across Aviation Boulevard and the BNSF rail right of way. Therefore, no significant impacts related to visual resources would be associated with implementation of Alternative Site 1.

Figure 4-1 – *Southwestern Portion of Alternative Site 1 – facing northwest*

Alternative Site 2 is located towards the northern boundary of LAAFB, and the proposed parking structure for this alternative would be eight stories high. The site for Alternative 2 is surrounded on all sides by the LAAFB. The northwestern portion of the Schriever Space Complex is located immediately adjacent to Site 2. Views from this portion of the complex would be altered by the construction of the proposed structure. However, this type of structure currently exists on the surrounding properties, which consist primarily of commercial and industrial uses. Therefore, no significant impacts related to visual resources would be associated with activities of Alternative Site 2.

Figure 4-2 – *Southwest Corner of Alternative Site 2 – facing northeast*

Alternative Site 3 is located within the eastern portion of LAAFB, and the proposed parking structure would be six stories high. The site for Alternative 3 is surrounded on all sides by LAAFB, except to the east, which is a parking lot leased to the Air Force Base by Aerospace Corporation. The Schriever Space Complex is located directly adjacent to Site 3 to the west. The proposed structure would not significantly impact building views to the east due to the existing Lockheed Martin office building, Entenmanns's/Orowheat Bakery outlet, and Nichols Research Building located directly across Aviation Blvd. The Del Aire residential community is located to the northeast of LAAFB, and Alternative Site 3 may be visible to the southern most residences of this community. However, this type of structure currently exists on the surrounding properties, which consist primarily of commercial and industrial uses. Therefore, no significant impacts related to visual resources would be associated with this alternative.

Figure 4-3 – *Northwest Corner of Alternative Site 3 – facing south*

Alternative Site 4 is located adjacent to the eastern boundary of LAAFB, on property owned by Aerospace Corporation. The proposed parking structure at this location would be six stories high. The site for Alternative 4 is surrounded on all sides by LAAFB, except to the east, which is Aviation Blvd. The Schriever Space Complex is located directly adjacent to Site 4 to the west. The proposed structure would not significantly impact building views to the east due to the existing Lockheed Martin office building, Entenmannn's/Orowheat outlet store, and Nichols Research Office Building located directly across Aviation Blvd. The Del Aire residential community is located to the northeast of LAAFB, and Alternative 4 would be visible to the southern most residences of this community. However, this type of structure currently exists on the surrounding properties, which consist primarily of commercial and industrial uses. Therefore, no significant impacts related to visual resources would be associated with this alternative.

Figure 4-4 – *South-central Portion of Alternative Site 4 – facing north*

Figure 4-5 – *View of LAAFB and Alternative Sites 3 and 4 – from the Del Aire Neighborhood to the southwest*

Impacts from No-action Alternative

Under the No-action alternative, no parking structure would be constructed on LAAFB, and there would be no significant impacts to visual resources. Implementation of the No-action Alternative would not preclude other land uses, including the construction of other structures at the alternative site locations.

4.2 MAN-MADE ENVIRONMENT

4.2.1 Population and Socioeconomics

Threshold of Significance

Factors considered in determining whether the Proposed Action would have significant adverse socioeconomic impacts include the extent or degree to which its implementation would:

- Induce growth or concentrations of population that exceed a local agency's capabilities to manage the growth.
- Cause a major and regionally substantial reduction in employment or income.
- Displace existing housing, especially affordable housing.
- Disrupt or divide the physical arrangement of an established community.
- Cause a decrease in local or regional employment.
- Cause a substantial decrease in property values.
- Cause a disproportionate share of the impact to minority or low-income populations or Indian tribe(s).

Impacts from Action Alternatives

Socioeconomic impacts can be adverse or beneficial, and short- or long-term. The primary socioeconomic issues associated with this project are: (1) construction-period impacts within area communities, (2) social and economic impacts within the surrounding jurisdictions, (3) growth-inducing impacts resulting from the proposed project, and (4) impacts to low-income and minority populations.

Implementation of any of the action alternatives is not expected to significantly adversely or beneficially affect the project area's socioeconomic conditions. Some beneficial socioeconomic impacts could result from construction worker spending. However, since most construction workers would likely live in or near the project area, only a small additional portion of their incomes and expenses would likely be spent locally, generating income for local businesses. Operation of the parking facilities due to the Proposed Action would not affect the local economy or employment status.

Implementation of the Proposed Action is not expected to result in growth-inducing impacts. The project would not remove existing obstacles to growth, nor would it inhibit growth. Implementing any of the action alternatives would not include housing construction or the development of facilities. Because the construction workforce would be small (up to about 200 employees), with no permanent migration to the area, negative effects are not expected for such public services as law enforcement or fire protection. In

sum, no significant impacts to socioeconomic resources would result from construction, operation, and maintenance of any of the action alternatives.

Environmental Justice

Environmental justice has been addressed in accordance with Executive Order 12898 and effects on minorities and Native Americans were considered. The action alternatives are all located in non-residential areas, although Alternative Sites 3 and 4 would be located within several hundred feet of the Del Aire residential community east of Aviation Boulevard. Construction and operation of the Proposed Action would not affect the existing population and housing in the immediate project area, in El Segundo, or Los Angeles County. No residences would be displaced as a result of any of the Action or No-action Alternatives.

Population data from the 2000 census was analyzed for the project area. The 2000 census indicates that LA County is 48.7% white and 51.3% other minority races; while El Segundo is 83.6% white and 16.4% other minority races. Based on observations and data analysis, there are no identifiable pockets of minority or low-income populations in the project area. Based on available information, no disproportionate adverse effects on minority or low-income populations would result from the proposed action.

Impacts from No-action Alternative

The No-action Alternative would not cause any of the new construction and operation related impacts discussed for the action alternatives. Since local businesses and public service providers would be unaffected by this alternative, no significant socioeconomic impacts would occur. In addition, the No-action Alternative would not result in a disproportionate impact on low-income and minority populations.

4.2.2 Land Use

Threshold of Significance

The assessment of potential impacts on land use focused on land jurisdiction and existing, planned, and future land uses along the proposed project alternative alignments. Impacts were assessed based on whether the project would result in substantial changes to the project site or immediately adjacent properties, be incompatible with uses on adjacent properties, or be in conflict with applicable land use plans. Land use impacts would be considered significant if project implementation would result in:

- Physical division of an established residential or mixed-use community.
- Unmitigated project-related changes that eliminate the ability for existing land users to continue to live, work, or otherwise use their land.

- Conflict with applicable land use plans, policies, goals, or regulations of an agency with jurisdiction over the project.

Impacts from Action Alternatives

Alternatives 1, 2, and 3 would be constructed on LAAFB property. Alternative 4 would be constructed on private property adjacent to the Base. For Alternative Sites 1, 2, and 3, no changes to land ownership or jurisdiction would occur as a result of implementing the Proposed Action. Implementation of the Proposed Action at Alternative Site 4 would require LAAFB to purchase or lease land from the Aerospace Corporation.

For all action alternatives, implementation of the Proposed Action would not result in physical division of an established residential or mixed-use community and would not eliminate existing land users to continue to live, work, or otherwise use the land.

The preferred project location, Alternative Site 1, is currently used for parking. During construction of the parking structure at this location, existing parking would be temporarily displaced, resulting in a loss of approximately 318 parking spaces. Impacts to LAAFB personnel as a result of this loss of parking would be minimized by the availability of other on-Base or off-site parking opportunities in the vicinity of the Base, including the Raytheon parking lot. The parking structure at this location would be compatible with surrounding land uses. Implementing the proposed action at this site would not conflict with any of the applicable policies of the LAAFB General Plan.

Alternative Site 2 is also currently used for parking. During construction at this site, approximately 204 existing parking spaces would be temporarily displaced. LAAFB personnel currently parking in this area would be required to find other on-Base parking or off-site parking, but impacts would be reduced due to the availability of other on-Base or off-site parking opportunities. While a parking structure at the site would be compatible with surrounding land uses, LAAFB has indicated that the site has been identified as the possible future location for Logistics Operations Resource Complex. While the parking structure would conflict with another proposed land use, it would not result in significant impacts since LAAFB has jurisdiction over the parcel and has the ability to determine the most appropriate use for the parcel.

Alternative Site 3 is currently used for surface parking, and approximately 367 existing parking spaces would be temporarily displaced as a result of construction activities. Alternative parking opportunities would be provided during the short-term construction period, minimizing potential impacts. The Proposed Action would be compatible with surrounding industrial, commercial, and business land uses. While requiring a setback, the ExxonMobil pipeline and SCE above-ground power lines are compatible with a parking structure and would not represent a significant impact. Implementing the

proposed action at this site would not conflict with any of the applicable policies of the LAAFB General Plan.

Alternative Site 4 is on land immediately adjacent to the LAAFB, owned by the Aerospace Corporation. The parcel being proposed for the parking structure is currently used for surface parking, and approximately 328 existing parking spaces would be temporarily displaced as a result of construction activities. During the time of parking structure construction, LAAFB personnel currently parking in this area would be required to find other parking, but impacts would not be substantial due to the availability of other off-site parking opportunities. Construction of a parking structure at this location is compatible with surrounding land uses. Similar to Alternative Site 3, this site would require a setback from the ExxonMobil pipeline and SCE above-ground power lines. These linear features, however, are compatible with a parking structure and would not represent a significant impact.

Impacts from No-action Alternative

Under the No-action Alternative, land ownership and management would remain the same. Alternative sites 1, 2, and 3 would remain under jurisdiction of LAAFB and Alternative Site 4 would continue to be owned by the Aerospace Corporation. Existing use of the sites for surface parking would continue. Future land use activities at the alternative sites would be limited to those approved by LAAFB and the City of El Segundo.

4.2.3 Transportation and Utilities

Threshold of Significance

A project would typically have a significant transportation/circulation impact if project implementation would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system
- Result in a change of two or more levels to the level of service (LOS) of a transportation facility

A project may be deemed to have a significant impact to utilities effect if it would:

- Cause disruption in electrical, natural gas, water, or sewer service for an extended period of time.
- Result in abandonment or major relocation of an existing generation, transmission, or distribution facility.
- Encourage activities which result in the use of large amounts of fuel, water, or energy

- Project implementation would result in an increase in service demand resulting in substantial difficulty in providing increased service.

Impacts from Action Alternatives

Transportation

Construction related traffic would be associated with workers arriving and leaving the project area, and truck and construction vehicle traffic. Construction worker traffic is expected to be located off-site with shuttles transporting workers to the construction site, and is not anticipated to create a significant impact to area-wide circulation. Construction vehicle access to Alternative Site 1 would be from Douglas Street. Construction vehicle access to alternative sites 2, 3, and 4 would be from Aviation Boulevard. Potential construction related impacts on local traffic and circulation would be short-term in nature. The total estimated construction time frame for project construction is approximately 18 months. During that time a maximum of 85 construction vehicles per day would access the site, resulting in an incremental increase in traffic levels on the roads surrounding the LAAFB. The minimal traffic level increases over this period of time would not result in significant impacts to transportation.

In the long-term, the proposed project would not change regional traffic levels, but would generate an increase in daily vehicle trips to the LAAFB. Since the vehicles that would be parking at the proposed structure currently park off-site at a parking lot located approximately 0.8 mile west along El Segundo Boulevard, traffic impacts are only considered for the primary arterials located immediately adjacent to the LAAFB. As many as 850 round trip vehicle trips would be expected as a result of constructing a parking structure at LAAFB.

Because workers currently using the off-site parking lot are assumed to be coming from several directions, using a variety of traffic arterials to access the parking lot, it is not possible to determine traffic distribution patterns. Street and intersection congestion impacts would result primarily during the morning peak and evening peak timeframes. For Alternative Site 1, primary access to the parking structure would be from the main gate located on Douglas Street. Users of parking structure at Alternative Site 2 would likely access the structure from both the Aviation Boulevard and Douglas Street gates. For Alternative Sites 3 and 4, the majority of the users of the parking structure would likely access the structure from Aviation Boulevard and the main gate entrance on Douglas Street.

According to the Los Angeles Air Force Base Land Conveyance, Construction, and Development project EIS/EIR, the consolidation of operations and facilities to the current LAAFB considered providing sufficient parking to compensate for the shift of employees to this site. In other words, sufficient parking, including that which now uses outlying

areas, was considered. The conclusion of the transportation study for this EIS/EIR was that LAAFB consolidation was expected to produce project-related significant traffic impacts at the Aviation and El Segundo Boulevards intersection. Prior to implementation of the proposed action, the existing Level of Service (LOS) for this intersection was designated as Level E. Level E is described as "having severe congestion with some long-standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements" (LAAFB EIS/EIR 2003). The EIS found that the Proposed Action was expected to produce one project related significant traffic impact during the a.m. and p.m. peak hour at the intersection of Aviation Boulevard and El Segundo Boulevard. As a result of this finding of significance, mitigation was proposed, which included installation of a northbound right turn lane on Aviation Boulevard at El Segundo Boulevard. The proposed mitigation also included that land shall be dedicated on the east side of Aviation Boulevard south of El Segundo Boulevard from Area A to create sufficient right-of-way for the installation of the proposed improvement.

Impacts related to the construction and operation of proposed parking structure at Alternative Site 1 are not expected to be significant, because the majority of traffic would access the parking structure from Douglas Street. The LOS for this intersection at the time of the Land Conveyance, Construction, and Development project EIS/EIR was Level B. Additional traffic generated during the a.m. and p.m. peak hours as a result of the Proposed Action would be expected to change the LOS at the Douglas Street and El Segundo Boulevard intersection to Level C. Level C is defined as light congestion, with occasional backups on critical approaches. Transportation impacts as a result of implementing Alternatives Sites 2, 3, and 4 would also not be expected to result in significant impacts. Potential transportation impacts would be minimized by the traffic improvements at the Aviation and El Segundo Boulevard intersection and by the fact that some traffic is expected to access the parking structure at each of these alternative sites by way of Douglas Street.

Utilities

Although the parking structure proposed for Alternative Site 1 would need to be set back from the Southern California Edison (SCE) substation to the north, no existing utilities would need to be removed or relocated as a result of implementing this alternative. No existing utilities would need to be removed or relocated as a result of implementing Alternative Sites 2 or 3; although directly adjacent to the east of the Alternative Site 3 is an ExxonMobil pipeline and SCE above-ground power lines. The parking structure would be set back from the ExxonMobil pipeline and utility poles, resulting in no impacts to these utilities. Alternative Site 4, located immediately adjacent to LAAFB, has approximately eight electrical utility poles that currently traverse the site and would need

to be relocated as a result of implementing the proposed action. Relocation of these utility poles could likely occur without disruption to the existing electrical service to the area and would therefore not result in a significant impact. Similar to Alternative Site 3, a parking structure at this site would be set back from the ExxonMobil pipeline and utility poles to the west, resulting in no impacts to these utilities.

Implementation of the Proposed Action at any of the alternative sites would not result in the use of large amounts of fuel, water, or energy and would not substantially increase electrical service demand. In sum, no significant impacts would be expected to occur to utilities as a result of project implementation at any of the alternative sites.

Impacts from No-action Alternative

Implementation of the No-action Alternative would not change the existing transportation and utility systems on or in the vicinity of the LAAFB. No impacts to transportation and utility systems would occur.

4.2.4 Health and Safety

Threshold of Significance

Impacts related to health and safety concerns would be considered significant if:

- Project construction and operation would impair emergency services or affect the implementation of an adopted emergency response plan or emergency evacuation plan.
- Project implementation would result in serious injuries to workers, visitors to the area, or area land users.
- Construction or operation of the proposed project would cause changes in traffic patterns, creating a hazard for motorists or pedestrians.
- Project facilities being determined an "Obstruction" for aviation traffic as defined by FAA Regulations (Objects Affecting Navigable Airspace – Part 77, Subpart C), without appropriate mitigation.
- The proposed project creates a significant hazard to the public or the environment through the non-permitted transport, use, or disposal of hazardous materials or solid waste.
- The proposed construction activities include handling of hazardous materials, substances, or waste within one-quarter mile of sensitive land uses, including schools and residences.
- Project implementation would emit hazardous emissions near an existing or proposed sensitive land use including residences, schools, or hospitals.

Impacts from Action Alternatives

Development of a parking garage at any of the alternative sites may create a need for additional fire protection and police services in the vicinity of LAAFB. The increase in the number of vehicles and individuals brought into the area, as well as the resulting increase in traffic adjacent to the LAAFB would incrementally increase fire and police protection services, as calls for service could increase slightly. Project implementation would not affect any local or regional emergency response plan or evacuation plan.

During construction, standard health and safety practices would be conducted in accordance with the Occupational Health and Safety Administration's policies and procedures, which would reduce worker safety risks to less than significant levels. Therefore, no significant impacts to public or worker safety would be anticipated.

Short-term traffic and transportation impacts on major arterials would occur during construction of the new parking garage, although these changes in traffic patterns would not create a significant hazard for motorists or pedestrians. The parking structure would be a maximum of eight stories high and none of the alternative sites are within an area of concern for navigable airspace. As a result, safety impacts to ground and air transportation from implementation of any of the action alternatives would not be significant.

The LAAFB construction contractor for the parking structure project would remove solid waste generated by the proposed project, including the removal of concrete and asphalt, from the project area and transport it to an appropriate facility for recycling or disposal. Project demolition and construction activities would not generate any hazardous emissions. No hazardous emissions or acutely hazardous materials, substances, or waste would be handled near sensitive land uses, such as residences. The proposed project would not require long-term storage, treatment, disposal, or transport of hazardous materials. As stated in the Environmental Protection Measures (Chapter 2) LAAFB would require the contractor to complete and have a Spill Prevention Notification and Cleanup Plan on file. In addition LAAFB requires that crews handle regulated materials under Federal, State, and local laws and leave no regulated material on site. For these reasons, and the implementation of the environmental protection measures associated with the project description, no significant hazardous materials and solid waste impacts would be expected.

Impacts from No-action Alternative

Under the No-action Alternative, a parking structure at or in the immediate vicinity of the LAAFB would not be constructed and no hazardous emissions and no hazardous emissions or acutely hazardous materials, substances, or waste would be generated or

handled near sensitive land uses, such as residences. In addition, the No-action Alternative would not require long-term storage, treatment, disposal, or transport of hazardous materials. As a result, no significant hazardous materials and solid waste impacts would be expected.

4.2.5 Noise

Threshold of Significance

Noise impacts from project activities would be significant if the project causes:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local noise ordinance, or applicable standards of regulatory agencies.
- Exposure of persons to or generation of, excessive ground-borne vibration or ground-borne noise levels where they live, work or recreate.
- A substantial permanent increase in ambient noise levels in the study area vicinity.

Impacts from Action Alternatives

For all action alternatives, some level of noise would result from parking structure construction and operation. During construction, noise would be generated by equipment and vehicles including tractor graders and concrete trucks. Table 4-2 shows typical noise levels for several types of construction equipment that may be used during parking structure construction.

Table 4-2
Typical Construction Equipment Noise Levels

Equipment Type	Approximate Noise Level at 50 Feet from Source
Backhoe	85 dB
Front-end Loader	85 dB
Concrete Truck/Mixer	85 dB
Water Truck	81 dB
Tractor Grader	80 dB
Flat-bed Trucks	84 dB

Source: EPA 1971

Long-term noise impacts would also result from use of the parking structure. Table 4-3 depicts the maximum noise levels generated by parking lots. It should be noted that these

estimated noise levels are associated with surface parking lots and that noise levels for multi-story parking structures may be slightly different.

Table 4-3 Maximum Noise Levels Generated by Parking Lots	
Noise Source-Parking Lot	**Maximum Noise Levels at 50 Feet from Source**
Car door slamming	63 dBA
Car starting	60 dBA
Car accelerating	55 dBA
Car idling	61 dBA
People shouting, laughing	65 dBA
Source: Handbook of Noise Control, Cyril M. Harris, 1979	

In determining noise impact, the important factor is how close the activity is to people detecting the sound. The location of the action alternatives is almost entirely surface parking lots and vacant land. The area surrounding each of the Alternative Sites is almost entirely associated with industrial, commercial, or business uses with background noise typical of such settings. The closest residences to LAAFB are located across Aviation Boulevard, northeast of the Base. Alternative Site 4 is within 200 feet of the nearest residence. No other sensitive receptors are located in the vicinity of any of the alternative sites.

Construction of the Proposed Action would result in temporary increases in ambient noise levels in the project area on an intermittent basis. The increase in noise would likely result in a temporary annoyance to nearby sensitive receptors. Noise levels would fluctuate depending on construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers. Construction activities require the use of numerous noise generating equipment, such as jack hammers, pneumatic impact equipment, saws, tractors, and concrete trucks. Noise levels within 50 feet of these sources could exceed 85 decibels and be considered a nuisance. However, noise receptors in the area are accustomed to construction noise due to the recent and current construction at LAAFB, and other noise common to a highly industrial area. Sensitive residential receptors located east of Aviation Boulevard would not likely experience significant construction-related impacts because construction activities would be conducted only during the hours of 7 AM to 5 PM Monday through Friday when receptors typically expect similar activities to occur. To further minimize potential noise impacts to nearby receptors, LAAFB construction contractors would comply with the Environmental Protection Measures associated with vehicle mufflers and

engine idling procedures. Transportation noise generated from the surrounding streets, including Douglas Street, Aviation Boulevard, and El Segundo Boulevard, would likely have a greater effect on local residents than the construction and operation of a parking garage. Therefore, construction activities on or immediately adjacent to LAAFB would not result in significant construction noise impacts at any receptor locations.

Operation and use of the parking structure at any of the four alternative sites would increase the number of vehicles at LAAFB, resulting in increased noise levels. This increase in noise, however, would not be expected to result in substantial noise impacts to receptors. The Proposed Action is compatible with other land uses in the vicinity. In addition, parking garage use would typically occur primarily during the morning and evening peak work hours, when receptors expect similar activities to occur. Furthermore, the Proposed Action is not expected to conflict with the local noise standards or ordinances. As a result, the Proposed Action would not cause direct, indirect, or cumulatively significant noise impacts.

Impacts from No-action Alternative

Under the No-Action Alternative, construction of a new parking structure within LAAFB would not occur. As a result the noise levels at and in the vicinity of the installation would not change, and there would be no significant noise impacts.

4.2.6 Cultural Resources

Threshold of Significance

Cultural resource impacts would be considered significant if:

- Cultural resources fulfilling National Register of Historic Places (NRHP) criteria would be physically damaged or permanently altered without implementing an approved treatment plan.
- Cultural resources would be affected by project elements that would be out of character with the property or site and its setting without an approved treatment plan.
- Project implementation would result in a permanent loss or degradation of Traditional Cultural places or properties (TCPs).

Impacts from Action Alternatives

The cultural environment includes those aspects of the man-made environment that relate to human culture and society, along with the social institutions that form and maintain communities and link them to their surroundings. Two primary issues related to the cultural environment were considered as components of this EA: (1) historic preservation concerns, related primarily to prehistoric and historic archaeological sites; and (2)

traditional cultural concerns, related primarily to places of importance to traditional American Indian communities, and Native American religious concerns.

The record search conducted with the South Central Coastal Information Center (SCCIC) for the EIS/EIR identified no prehistoric or historic archaeological sites on or within a one-half mile radius of the LAAFB Area B. The four alternative sites are all highly disturbed due to its previous industrial uses and current uses as surface parking lots. Therefore, it is not anticipated that the construction and operation of a parking garage at any of the four alternative site locations would encounter archaeological resources during construction activities. Since LAAFB has been completely disturbed as a result of site development, paving, and landscaping, Native American resources such as sacred sites or traditional use locations associated with Native American Organizations are not expected to occur. There is a low probability that subsurface deposits or burial sites may exist which could be encountered during grading or excavation operations.

As described in the Environmental Protection Measures in Chapter 2, if additional or unexpected archaeological features are discovered during the construction process, the contractor shall report such findings to LAAFB, who will report it to the California Office of Historic Preservation and to appropriate tribal agencies. If the archaeological resources are found to be significant, LAAFB and its consultant shall determine appropriate actions for exploration and/or salvage.

Impacts from No-action Alternative

There would be no new impacts to cultural resources under the No-action Alternative.

5.0 LIST OF CONTRIBUTORS

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APPENDIX A

FEDERAL AND STATE-LISTED SPECIES IDENTIED IN THE PROJECT VICINITY

TABLE A-1

Los Angeles County Federally Threatened and Endangered Species

Common Name	Scientific Name	Status
Arroyo Toad	*Bufo microscaphus californicus*	Endangered
California Red-Legged Frog	*Rana aurora draytonii*	Threatened
Bald Eagle	*Haliaeetus leucocephalus*	Threatened
Brown Pelican	*Pelicanus occidentalis*	Endangered
California Condor	*Gymnogyps californianus*	Endangered
California Gnatcatcher	*Polioptila californica*	Threatened
California Least Tern	*Sterna antillarum browni*	Endangered
Least Bell's Vireo	*Vireo bellii pusillus*	Endangered
Southwestern Willow Flycatcher	*Empidonax trallii extimus*	Endangered
Western Snowy Plover	*Charadrius alexandrinus nivosus*	Threatened
Yellow-Billed Cuckoo	*Coccyzus americanus*	Candidate
Southern California Steelhead	*Oncorhynchus mykiss*	Endangered
Tidewater Goby	*Eucyclogobius newberryi*	Endangered
Unarmored Threespine Stickleback	*Gasterosteus aculeatus williamsoni*	Endangered
Quino Checker-Spot Butterfly	*Euphydryas editha quino*	Endangered
Riverside Fairy Shrimp	*Streptocephalus woottoni*	Endangered
San Joaquin Kit Fox	*Vulpes macrotis mutica*	Endangered
Braunton's Milk-Vetch	*Astragalus brauntonii*	Endangered
California Orcutt Grass	*Orcuttia californica*	Endangered
Conejo Dudleya	*Dudleya abramsii ssp. Parva*	Threatened
Lyon's Pentachaeta	*Pentachaeta lyonii*	Endangered
Marcescent Dudleya	*Dudleya cymosa ssp. Marcenscens*	Threatened
Nevin's Barberry	*Berberis nevinii*	Endangered
Slender-Horned Spineflower	*Dodecahema leptoceras*	Endangered
Spreading Navarretia	*Navarretia fossalis*	Threatened
Verity's Dudleya	*Dudleya verityi*	Threatened
Blunt-Nosed Leopard Lizard	*Gambelia silus*	Endangered
Desert Tortoise	*Gopherus agassizzii*	Threatened

Source: USFWS August 9, 2006

TABLE A-2

Special Status Species for Venice Quadrangle California

Common Name	Scientific Name	Federal Status	California Status	CDFG Status	CNPS Status
California Brown Pelican	*Pelecanus occidentalis californicus*	Endangered	Endangered		
California Black Rail	*Laterallus jamaicensis coturniculus*		Threatened		
Western Snowy Plover	*Charadrius alexandrinus nivosus*	Threatened		SC	
California Least Tern	*Sterna antillarum browni*	Endangered	Endangered		
Burrowing Owl	*Athene cunicularia*			SC	
Coastal California Gnatcatcher	*Polioptila californica californica*	Threatened		SC	
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingi*		Endangered		
Southern California Saltmarsh Shrew	*Sorex ornatus salicornicus*			SC	
Pacific Pocket Mouse	*Perognathus longimembris pacificus*	Endangered		SC	
South Coast Marsh Vole	*Microtus californicus stephensi*			SC	
Southwestern Pond Turtle	*Emys marmorata pallida*			SC	
Sandy Beach Tiger Beetle	*Cicindela hirticollis gravida*				
Tiger Beetle	*Cicindela senilis frosti*				
Globose Dune Beetle	*Coelus globosus*				
Lange's El Segundo Dune Weevil	*Onychobaris langei*				
Dorothy's El Segundo Dune Weevil	*Trigonoscuta dorothea dorothea*				
Belkin's Dune Tabanid Fly	*Brennania belkini*				
Henne's Eucosman Moth	*Eucosma hennei*				
Busck's Gallmoth	*Carolella busckana*				
Wandering Skipper	*Panoquina errans*				
El Segundo Blue Butterfly	*Euphilotes battoides allyni*	Endangered			
Monarch Butterfly	*Danaus plexipus*				
Mimic Tryonia	*Tryonia imitator*				
Orcutt's Pincushion	*Chaenactis glabriuscula var. orcuttiana*				1B
Southern Tarplant	*Centromadia parryi ssp. australis*				1B
Coulter's Goldfields	*Lasthenia glabrata ssp. coulteri*				1B
Beach Spectaclepod	*Dithyrea maritime*		Threatened		1B
Ventura Marsh Milk-Vetch	*Astragalus pycnostachyus var. lanosissimus*	Endangered	Endangered		1B
Coastal Dunes Milk-Vetch	*Astragalus tener var. titi*	Endangered	Endangered		1B

TABLE A-2

Special Status Species for Venice Quadrangle California

Common Name	Scientific Name	Federal Status	California Status	CDFG Status	CNPS Status
Brand's Phacelia	*Phacelia stellaris*	Candidate			1B
San Fernando Valley Spineflower	*Chorizanthe parryi var. Fernandina*	Candidate	Endangered		1B
Prostrate Navarretia	*Navarretia prostrate*				1B
Ballona Cinquefoil	*Potentilla multijuga*				1A

CDFG = California Department of Fish and Game SC = State Candidate 1B = Rare or Endangered in California or Elsewhere
CNPS = California Native Plant Society 1A = Presumed Extinct in California
Source: California Natural Diversity Database August 9, 2006

APPENDIX B

AIR QUALITY IMPACTS CALCULATIONS

TABLE B-1
6-hr Monitoring Results for NOx

LAAFB - Consolidated Parking Structure
Off-Road Diesel Equipment

NOx EF [1] 5.8 g/bhp-hr

Site Grading

	Year 2009								Year 2010				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Excavators	180	0.58	1	6	20	8.00	0.08	120	6	40	240	8.00	0.16
Graders	174	0.575	1	6	10	7.67	0.04	60	6	20	120	7.67	0.08
Other Equipment	190	0.62	2	5	20	15.05	0.15	100	6	40	240	18.06	0.36
Rubber Tired Dozers	352	0.59	1	6	20	15.92	0.16	120	6	40	240	15.92	0.32
Rubber Tired Loaders	165	0.465	1	6	20	5.88	0.06	120	6	40	240	5.88	0.12
Scrapers	313	0.66	1	6	10	15.83	0.08	60	6	20	120	15.83	0.16
Skid Steer Loaders	62	0.515	1	6	20	2.45	0.02	120	6	40	240	2.45	0.05
Tractors/Loaders/Backhoes	79	0.465	2	6	20	5.63	0.06	120	6	40	240	5.63	0.11
On-highway Vehicles (concrete trucks/flat beds)	489	0.41	2	2	10	10.25	0.05	20	2	20	40	10.25	0.10
Trenchers	82	0.695	1	4	20	2.91	0.03	80	6	40	240	4.37	0.09
					Total	89.59	0.73				**Total**	94.06	1.54

Building Construction

	Year 2010								Year 2011				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Bore/Drill Rigs	218	0.75	1	4	30	8.4	0.13	120	6	30	180	8.4	0.13
Concrete/Industrial Saws	84	0.73	1	6	60	4.7	0.14	360	6	60	360	4.7	0.14
Cranes	190	0.43	1	4	125	4.2	0.26	500	6	250	1500	4.2	0.52
Crawler Tractors	143	0.575	1	6	80	6.3	0.25	480	6	80	480	6.3	0.25
Off Highway Tractors	255	0.41	1	6	30	8.0	0.12	180	6	30	180	8.0	0.12
Off Highway Trucks	417	0.49	1	6	5	15.7	0.04	30	6	5	30	15.7	0.04
Other Equipment	190	0.62	2	4	100	12.0	0.60	400	6	100	600	12.0	0.60
Rough Terrain forklifts	94	0.475	1	6	140	3.4	0.24	840	6	180	1080	3.4	0.31
Signal Boards	119	0.82	1	6	140	7.5	0.52	840	6	180	1080	7.5	0.67
Paving Equipment	111	0.53	2	4	10	6.0	0.03	40	6	50	300	6.0	0.15
Off-highway trucks[4]	489	0.41	2	2	40	10.2	0.20	80	6	80	480	10.2	0.41
					Total	86.4	2.41				**Total**	86.4	3.34

Summary Table

Year	NOx Emissions lb/day	NOx Emissions ton/yr
2009	89.59	0.73
2010	94.1	3.96
2011	86.4	3.34

Notes:

1. Emission Factor for NOx was based on allowable emission rates for California off-road construction equipment for year 2001+.

2. Default values for horsepower and load factors are included in the URBEMIS2002 model.

3. Default values for load factors from Appendix A to Chapter 9, Table A9-8-D, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

4. Horsepower for off-highway trucks (all diesel) from Appendix A to Chapter 9, Table A9-8-C, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

Sample Calculation:

Emissions (pounds/day) = grams/brake-hp-hour x horsepower x load factor x hours per day x pound/454 grams

As an example, NOx emissions for one bore rig are calculated as follows:

NOx emissions (pounds/day) = 5.8 grams/brake-hp-hr (NOx emission factor for year 2001+) x 218 hp x 0.75 (load factor) x 4 hours/day x 1 pound/454 grams

NOx emissions = 8.4 pounds per day

TABLE B-2
6-hr Monitoring Results for Carbon Monoxide

LAAFB - Consolidated Parking Structure
Off-Road Diesel Equipment

CO EF [1] 8.5 g/bhp-hr

Site Grading

	Year 2009								Year 2010				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Excavators	180	0.58	1	6	20	11.73	0.12	120	6	40	240	11.73	0.23
Graders	174	0.575	1	6	10	11.24	0.06	60	6	20	120	11.24	0.11
Other Equipment	190	0.62	2	5	20	22.06	0.22	100	6	40	240	26.47	0.53
Rubber Tired Dozers	352	0.59	1	6	20	23.33	0.23	120	6	40	240	23.33	0.47
Rubber Tired Loaders	165	0.465	1	6	20	8.62	0.09	120	6	40	240	8.62	0.17
Scrapers	313	0.66	1	6	10	23.21	0.12	60	6	20	120	23.21	0.23
Skid Steer Loaders	62	0.515	1	6	20	3.59	0.04	120	6	40	240	3.59	0.07
Tractors/Loaders/Backhoes	79	0.465	2	6	20	8.25	0.08	120	6	40	240	8.25	0.17
On-highway Vehicles (concret	489	0.41	2	2	10	15.01	0.08	20	2	20	40	15.01	0.15
Trenchers	82	0.695	1	4	20	4.27	0.04	80	6	40	240	6.40	0.13
					Total	131.30	1.07				**Total**	137.84	2.26

Building Construction

	Year 2010								Year 2011				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Bore/Drill Rigs	218	0.75	1	4	30	12.2	0.18	120	6	30	180	12.2	0.18
Concrete/Industrial Saws	84	0.73	1	6	60	6.9	0.21	360	6	60	360	6.9	0.21
Cranes	190	0.43	1	4	125	6.1	0.38	500	6	250	1500	6.1	0.76
Crawler Tractors	143	0.575	1	6	80	9.2	0.37	480	6	80	480	9.2	0.37
Off Highway Tractors	255	0.41	1	6	30	11.7	0.18	180	6	30	180	11.7	0.18
Off Highway Trucks	417	0.49	1	6	5	23.0	0.06	30	6	5	30	23.0	0.06
Other Equipment	190	0.62	2	4	100	17.6	0.88	400	6	100	600	17.6	0.88
Rough Terrain forklifts	94	0.475	1	6	140	5.0	0.35	840	6	180	1080	5.0	0.45
Signal Boards	119	0.82	1	6	140	11.0	0.77	840	6	180	1080	11.0	0.99
Paving Equipment	111	0.53	2	4	10	8.8	0.04	40	6	50	300	8.8	0.22
Off-highway trucks[4]	489	0.41	2	2	40	15.0	0.30	80	6	80	480	15.0	0.60
					Total	126.6	3.54				**Total**	126.6	4.90

Summary Table **CO Emissions**

Year	lb/day	ton/yr
2009	131.30	1.07
2010	137.8	5.80
2011	126.6	4.90

Notes:

1. Emission Factor for CO was based on allowable emission rates for California off-road construction equipment for year 2001+.

2. Default values for horsepower and load factors are included in the URBEMIS2002 model.

3. Default values for load factors from Appendix A to Chapter 9, Table A9-8-D, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

4. Horsepower for off-highway trucks (all diesel) from Appendix A to Chapter 9, Table A9-8-C, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

Sample Calculation:

Emissions (pounds/day) = grams/brake-hp-hour x horsepower x load factor x hours per day x pound/454 grams

As an example, CO emissions for one bore rig are calculated as follows:

CO emissions (pounds/day) = 8.5 grams/brake-hp-hr (CO emission factor for year 2001+) x 218 hp x 0.75 (load factor) x 4 hours/day x 1 pound/454 grams

CO emissions = 12.2 pounds per day

TABLE B-3
6-hr Monitoring Results for Reactive Organic Compounds

LAAFB - Consolidated Parking Structure
Off-Road Diesel Equipment

ROC EF [1] 1 g/bhp-hr

Site Grading

	Year 2009								Year 2010				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Excavators	180	0.58	1	6	20	1.38	0.01	120	6	40	240	1.38	0.03
Graders	174	0.575	1	6	10	1.32	0.01	60	6	20	120	1.32	0.01
Other Equipment	190	0.62	2	5	20	2.59	0.03	100	6	40	240	3.11	0.06
Rubber Tired Dozers	352	0.59	1	6	20	2.74	0.03	120	6	40	240	2.74	0.05
Rubber Tired Loaders	165	0.465	1	6	20	1.01	0.01	120	6	40	240	1.01	0.02
Scrapers	313	0.66	1	6	10	2.73	0.01	60	6	20	120	2.73	0.03
Skid Steer Loaders	62	0.515	1	6	20	0.42	0.00	120	6	40	240	0.42	0.01
Tractors/Loaders/Backhoes	79	0.465	2	6	20	0.97	0.01	120	6	40	240	0.97	0.02
On-highway Vehicles (concret	489	0.41	2	2	10	1.77	0.01	20	2	20	40	1.77	0.02
Trenchers	82	0.695	1	4	20	0.50	0.01	80	6	40	240	0.75	0.02
					Total	15.45	0.13				**Total**	16.22	0.27

Building Construction

	Year 2010								Year 2011				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Bore/Drill Rigs	218	0.75	1	4	30	1.4	0.02	120	6	30	180	1.4	0.02
Concrete/Industrial Saws	84	0.73	1	6	60	0.8	0.02	360	6	60	360	0.8	0.02
Cranes	190	0.43	1	4	125	0.7	0.04	500	6	250	1500	0.7	0.09
Crawler Tractors	143	0.575	1	6	80	1.1	0.04	480	6	80	480	1.1	0.04
Off Highway Tractors	255	0.41	1	6	30	1.4	0.02	180	6	30	180	1.4	0.02
Off Highway Trucks	417	0.49	1	6	5	2.7	0.01	30	6	5	30	2.7	0.01
Other Equipment	190	0.62	2	4	100	2.1	0.10	400	6	100	600	2.1	0.10
Rough Terrain forklifts	94	0.475	1	6	140	0.6	0.04	840	6	180	1080	0.6	0.05
Signal Boards	119	0.82	1	6	140	1.3	0.09	840	6	180	1080	1.3	0.12
Paving Equipment	111	0.53	2	4	10	1.0	0.01	40	6	50	300	1.0	0.03
Off-highway trucks[4]	489	0.41	2	2	40	1.8	0.04	80	6	80	480	1.8	0.07
					Total	14.9	0.42				**Total**	14.9	0.58

Summary Table **ROC Emissions**

Year	lb/day	ton/yr
2009	15.45	0.13
2010	16.2	0.68
2011	14.9	0.58

Notes:

1. Emission Factor for ROC was based on allowable emission rates for California off-road construction equipment for year 2001+.

2. Default values for horsepower and load factors are included in the URBEMIS2002 model.

3. Default values for load factors from Appendix A to Chapter 9, Table A9-8-D, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

4. Horsepower for off-highway trucks (all diesel) from Appendix A to Chapter 9, Table A9-8-C, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

Sample Calculation:

Emissions (pounds/day) = grams/brake-hp-hour x horsepower x load factor x hours per day x pound/454 grams

As an example, ROC emissions for one bore rig are calculated as follows:

ROC emissions (pounds/day) = 1.00 grams/brake-hp-hr (ROC emission factor for year 2001+) x 218 hp x 0.75 (load factor) x 4 hours/day x 1 pound/454 grams

ROC emissions = 1.4 pounds per day

TABLE B-4
6-hr Monitoring Results for PM10

LAAFB - Consolidated Parking Structure
Off-Road Diesel Equipment

PM10 EF[1] 0.16 g/bhp-hr

Site Grading

	Year 2009								Year 2010				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Excavators	180	0.58	1	6	20	0.22	0.00	120	6	40	240	0.22	0.00
Graders	174	0.575	1	6	10	0.21	0.00	60	6	20	120	0.21	0.00
Other Equipment	190	0.62	2	5	20	0.42	0.00	100	6	40	240	0.50	0.01
Rubber Tired Dozers	352	0.59	1	6	20	0.44	0.00	120	6	40	240	0.44	0.01
Rubber Tired Loaders	165	0.465	1	6	20	0.16	0.00	120	6	40	240	0.16	0.00
Scrapers	313	0.66	1	6	10	0.44	0.00	60	6	20	120	0.44	0.00
Skid Steer Loaders	62	0.515	1	6	20	0.07	0.00	120	6	40	240	0.07	0.00
Tractors/Loaders/Backhoes	79	0.465	2	6	20	0.16	0.00	120	6	40	240	0.16	0.00
On-highway Vehicles (concret	489	0.41	2	2	10	0.28	0.00	20	2	20	40	0.28	0.00
Trenchers	82	0.695	1	4	20	0.08	0.00	80	6	40	240	0.12	0.00
					Total	2.47	0.02				**Total**	2.59	0.04

Building Construction

	Year 2010								Year 2011				
Equipment	Hp [2]	Load Factor [3]	No. of Unit	hr/day	Actual days/yr	lb/day	ton/yr	hr/yr	hrs/day	Actual days/year	hrs/yr	lb/day	ton/yr
Bore/Drill Rigs	218	0.75	1	4	30	0.2	0.00	120	6	30	180	0.2	0.00
Concrete/Industrial Saws	84	0.73	1	6	60	0.1	0.00	360	6	60	360	0.1	0.00
Cranes	190	0.43	1	4	125	0.1	0.01	500	6	250	1500	0.1	0.01
Crawler Tractors	143	0.575	1	6	80	0.2	0.01	480	6	80	480	0.2	0.01
Off Highway Tractors	255	0.41	1	6	30	0.2	0.00	180	6	30	180	0.2	0.00
Off Highway Trucks	417	0.49	1	6	5	0.4	0.00	30	6	5	30	0.4	0.00
Other Equipment	190	0.62	2	4	100	0.3	0.02	400	6	100	600	0.3	0.02
Rough Terrain forklifts	94	0.475	1	6	140	0.1	0.01	840	6	180	1080	0.1	0.01
Signal Boards	119	0.82	1	6	140	0.2	0.01	840	6	180	1080	0.2	0.02
Paving Equipment	111	0.53	2	4	10	0.2	0.00	40	6	50	300	0.2	0.00
Off-highway trucks[4]	489	0.41	2	2	40	0.3	0.01	80	6	80	480	0.3	0.01
					Total	2.4	0.07				**Total**	2.4	0.09

Summary Table **PM10 Emissions**

Year	lb/day	ton/yr
2009	2.47	0.02
2010	2.6	0.11
2011	2.4	0.09

Notes:

1. Emission Factor for PM10 was based on allowable emission rates for California off-road construction equipment for year 2001+.

2. Default values for horsepower and load factors are included in the URBEMIS2002 model.

3. Default values for load factors from Appendix A to Chapter 9, Table A9-8-D, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

4. Horsepower for off-highway trucks (all diesel) from Appendix A to Chapter 9, Table A9-8-C, CEQA Air Quality Handbook, November 1993 update.
All values originally taken from November 1991 Nonroad Engine and Vehicle Emission Study and averaged.

Sample Calculation:

Emissions (pounds/day) = grams/brake-hp-hour x horsepower x load factor x hours per day x pound/454 grams

As an example, PM10 emissions for one bore rig are calculated as follows:

PM10 emissions (pounds/day) = 0.16 grams/brake-hp-hr (NOx emission factor for year 2001+) x 218 hp x 0.75 (load factor) x 4 hours/day x 1 pound/454 grams

PM10 emissions = 0.23 pounds per day

TABLE B-5

LAAFB - Consolidated Parking Structure
Off-road Diesel Equipment
Emissions Summary Tables

	Pounds Per Day			
	NOx	**CO**	**ROC**	**PM10**
SCAQMD Threshold	100	550	75	150
2009	89.59	131.30	15.45	2.47
2010	94.06	137.84	16.22	2.59
2011	86.41	126.63	14.90	2.38

	Tons Per Year			
	NOx	**CO**	**ROC**	**PM10**
General Conformity Thresholds	10	100	10	70
2009	0.73	1.07	0.13	0.02
2010	3.96	5.80	0.68	0.11
2011	3.34	4.90	0.58	0.09