# FINAL

## LAX MASTER PLAN
## MITIGATION MONITORING & REPORTING PROGRAM

# ARCHAEOLOGICAL TREATMENT PLAN

Los Angeles World Airports
Environmental Management Division

June 2005

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## Table of Acronyms

| | |
|---|---|
| ACHP | Advisory Council on Historic Preservation |
| AHPA | Archeological and Historical Preservation Act |
| APE | Area of Potential Effect |
| ARMR | Archeological Research Management Reports |
| ATP | Archeological Treatment Plan |
| CEQA | California Environmental Quality Act |
| CRM | Cultural Resources Monitor |
| CTA | Central Terminal Area |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Study |
| FAA | Federal Aviation Administration |
| GTC | Ground Transportation Center |
| HPOZ | Historic Preservation Overlay Zone |
| HRG | Historic Resources Group |
| ITC | Intermodal Transportation Center |
| LAWA | Los Angeles World Airports |
| LAX | Los Angeles International Airport |
| MMRP | Mitigation, Monitoring and Reporting Program |
| MPM | Monitoring Program Manager/Project Archeologist |
| MTA | Los Angeles Metropolitan Transit Authority |
| NAGPRA | Native American Graves Protection and Repatriation Act |
| NAHC | Native American Heritage Commission |
| NHPA | National Historic Preservation Act |
| NPS | National Park Service |
| OHP | Office of Historic Preservation |
| PCR | PCR Services Corporation |
| PI | Principal Investigator |
| SHPO | State Historic Preservation Officer |
| TWA | Trans World Airways |

# EXECUTIVE SUMMARY

This Archaeological Treatment Plan (ATP) has been prepared to fulfill a requirement of the Mitigation Monitoring and Reporting Program (MMRP) for the Los Angeles Airport Master Plan (LAX Master Plan). The LAX Master Plan Project involves the improvement of existing airport facilities at LAX, including land acquisition, relocation of runways, construction of new taxiways, passenger terminals, and surface transportation improvements. The purpose of this document is to achieve compliance with Section 106 of the National Historic Preservation Act (NHPA), the California Environmental Quality Act (CEQA), and the environmental guidelines of local agencies regarding the treatment of unexpected archaeological discoveries of federal, state, and/or local significance that might be encountered during construction activities.

The ATP focuses on the long-term protection and proper treatment of those unexpected archaeological discoveries of federal, state, and/or local significance found within the Area of Potential Effect (APE). In order to achieve the goal of mitigating possible impacts to as yet undiscovered archaeological resources, this plan requires monitoring of construction in sensitive areas. In the event that subsurface deposits are encountered, the ATP will be used as a guideline for the evaluation and treatment of such resources consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation; California Office of Historic Preservation's (OHP) *Archaeological Resources Management Report*, Recommended Contents and Formats (1989), the Guidelines for Archaeological Research Design (1991); and the Advisory Council on Historic Preservation's (ACHP) publication *Treatment of Archaeological Properties: A Handbook*. The ATP is consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA, Section 21083.2(i) of CEQA and Section 15064.5(f) of the CEQA Guidelines.

Overall responsibility for implementation of the ATP rests with Los Angeles World Airports (LAWA) and the project archaeologist selected by LAWA. Field mitigation measures will be directed by the project archaeologist within the framework of this plan and following consultation with LAWA. Excavation activities near known archaeological deposits will have a higher potential to uncover discoveries and will be monitored by a cultural resource monitor at a frequency to be determined by LAWA and the consulting archaeologist. In areas containing fill material or reworked soil, archaeological monitoring will be reduced or suspended as determined by the consulting archaeologist and LAWA. If cultural resources are identified by the archaeological monitor or construction personnel, the construction supervisor shall be notified and the area secured. The discovery will be reported to LAWA and the consulting archaeologist so that appropriate investigation and treatment measures can be undertaken. If human remains are found, and the County coroner determines that the remains are Native American, LAWA and the consulting archaeologist will contact the Native American Heritage Commission and hire a Native American monitor as needed, following investigation by the Los Angeles County Coroner. Any human remains found will be protected and treated in a respectful manner until

the preferred course of action is determined by the coroner, LAWA, the consulting archaeologist, and, if appropriate, the Native American monitor.

# 1.0 BACKGROUND INFORMATION

## 1.1 Project Location

Los Angeles International Airport (LAX) is the largest commercial airport serving Los Angeles and southern California. LAX is located within the City of Los Angeles and Los Angeles County on 3,651 acres of land, as depicted in Figure 1.0–1. LAX is aligned east/west and is bordered by the community of Westchester (part of the City of Los Angeles), the City of El Segundo, the City of Inglewood, the unincorporated community of Lennox, and the Pacific Ocean. The airport is located approximately 12 miles southwest of downtown Los Angeles. Approximately 60 percent of the property is covered by buildings and paved areas, including runways (four), taxiways, aprons, roads, and parking lots.

## 1.2 Project Description

The LAX Master Plan is a modernization plan to improve the efficiency and safety of airport services at LAX. Alternative D has been designed to serve approximately 78.9 million annual passengers and includes new approaches to securing the airport as well as improving the efficiency of many airport activities. The plan will make improvements resulting in an increase in the quality of passenger service. Improvements include land acquisition; relocation of runways; and construction of new taxiways, passenger terminals, aircraft parking aprons, air cargo processing facilities, and surface transportation improvements. In addition, Alternative D provides airfield modifications that include new taxiways, additional runway length, and modified gates to accommodate larger aircraft. Los Angeles World Airports (LAWA) will use the LAX Master Plan Final EIR as a broad policy statement regarding the conceptual strategic framework for future improvements at LAX and as working guidelines to be consulted by LAWA as it formulates and processes site specific projects under the LAX Master Plan Program. To implement these improvements, the existing physical footprint of LAX and certain acquisition areas will undergo construction. These construction areas are the Area of Potential Effect (APE) for this ATP.

The APE, as it relates to cultural resources, includes the physical footprint of the LAX Master Plan, and is depicted in Figure 1.0–2. LAX is bordered by the community of Westchester (part of the City of Los Angeles), the City of El Segundo, the City of Inglewood, the unincorporated community of Lennox, and the Pacific Ocean. Figure 1.0–3 is provided to illustrate the areas within the APE subject to construction under Alternative D.

## 1.3 Purpose and Organization of Archaeological Treatment Plan

This ATP has been prepared to fulfill a requirement of the MMRP for the LAX Master Plan. The purpose of this document is to achieve compliance with Section 106 of the National Historic Preservation Act, the California Environmental Quality Act (CEQA), and local agencies regarding the treatment of unexpected archaeological discoveries of federal, state, and/or local

significance. Any discussion, summary, or paraphrasing of the conditions in the ATP is intended to provide general guidance to the implementation of the cultural resources mitigation program and will serve as an aid to LAWA as the Master Plan is engaged. In the event of any discrepancy between the stated Mitigation Measures in the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP) language will supersede any interpretations of the conditions in the ATP. A copy of the relevant portions of the LAX Master Plan MMRP is attached as an appendix (Appendix A) to this ATP.

The archaeological and historical/architectural investigation conducted between 1995 and 2000 for the LAX Master Plan Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) were extensive and included archival research, records searches, pedestrian field investigations and archaeological significance evaluations, architectural reconnaissance-level survey and significance evaluations, and consultation with the Native American Heritage Commission. The records searches included a review of the National Register of Historic Places, the California Historical Resources Inventory database, the City of Los Angeles' Historic-Cultural Monuments listing, completed site records, and survey reports. Both archaeological and historical/architectural resources were identified within the project APE. Section 4.9.1 in the LAX Master Plan Final EIR identifies one archaeological site and 10 historical/architectural resources that meet the criteria for federal, state, and/or local significance that could potentially be impacted during construction of the various alternatives evaluated for the LAX Master Plan Project. Other resources were identified but were determined not to be significant. The LAX Master Plan Final EIR concluded that only two historical/architectural resources would be potentially impacted by Alternative D, the approved LAX Master Plan alternative. These resources include the International Airport Industrial District and the Morningside Park Neighborhood. Implementation of Commitment HR-1 and Mitigation Measures MM-HA-1 and MM-HA-2 address the impacts of Alternative D on historical/architectural resources. The single archaeological site (CA-LAN-2345) that was evaluated as meeting the criteria as potentially eligible for the National Register of Historic Places will not be directly impacted by the LAX Master Plan Program.

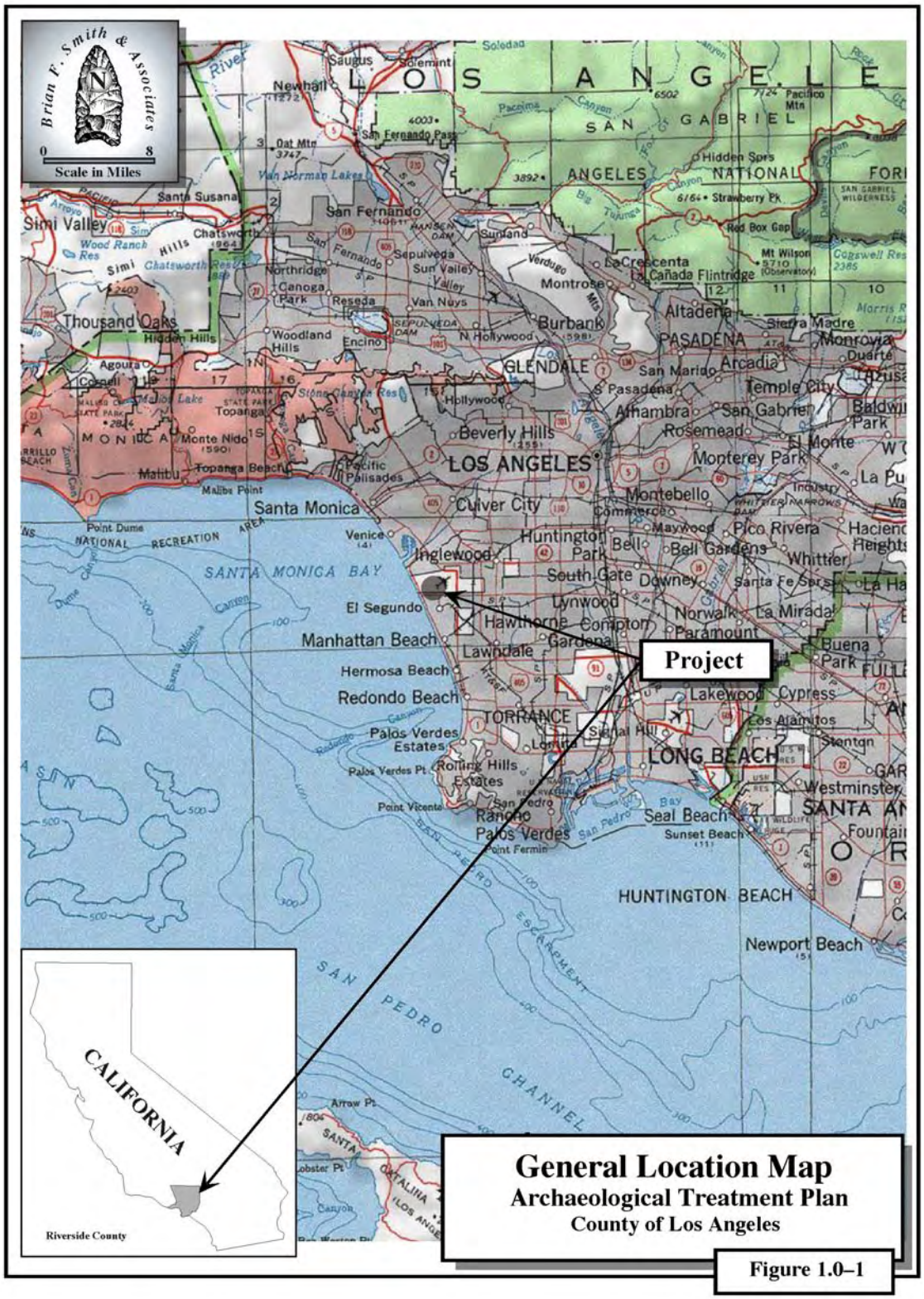
Due to the extensive historical/architectural investigations, including archival and field investigations, that have covered the entire APE, the potential for the discovery of previously unidentified standing historical/architectural resources is extremely low. Therefore, the ATP focuses on the long-term protection and proper treatment of those unexpected *archaeological* discoveries within the APE. Given the number of archaeological sites previously recorded within the study area (Section 4.9.1 in the LAX Master Plan Final EIR), there is a relatively high likelihood of discovering previously unknown subsurface archaeological deposits within the APE. The discoveries may be encountered during construction-related activities such as grading and construction. The disturbance or destruction of potentially significant undiscovered cultural resources by these activities would be considered a significant impact.

The MMRP for the LAX Master Plan requires that archaeological construction

monitoring be conducted in areas that have not been identified as containing redeposited fill material or having been previously disturbed. Special attention should be given to those areas where cultural resources have been identified during previous investigations. Appendix B provides a summary of the previously identified archaeological sites identified within the APE. Should subsurface deposits be identified during archaeological monitoring of the LAX Master Plan project, the ATP provides guidelines for the recordation, evaluation, and treatment of these resources as required by federal, state, and local guidelines. The location of any archaeological sites that are discovered during the monitoring process will not be subject to public disclosure, as per the National Historic Preservation Act (NHPA) as implemented by the State Historic Preservation Officer.

This ATP is organized as follows:

- Section 1.0: Introduction;
- Section 2.0: Regulatory Content - Discusses the criteria used to evaluate and treat unexpected archaeological discoveries;
- Section 3.0: Environmental and Cultural Content - Presents an environmental and cultural context for the identification, evaluation, and treatment of cultural resources, both prehistoric and historic, that might be discovered;
- Section 4.0: Treatment Plan Goals and Objectives - States the ATP goals and objectives;
- Section 5.0: Creation and Implementation of the ATP - Discusses management coordination and ATP measures that will ensure the protection and treatment of archaeological sites, including monitoring procedures, potential testing and data recovery field work, potential laboratory analysis, curation procedures for any assemblage that might be collected as the ATP is implemented, and reporting procedures that will serve as the product of the archaeological compliance process.


Brian F. Smith & Associates
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Scale in Miles
Project
CALIFORNIA
Riverside County
General Location Map
Archaeological Treatment Plan
County of Los Angeles
Figure 1.0–1

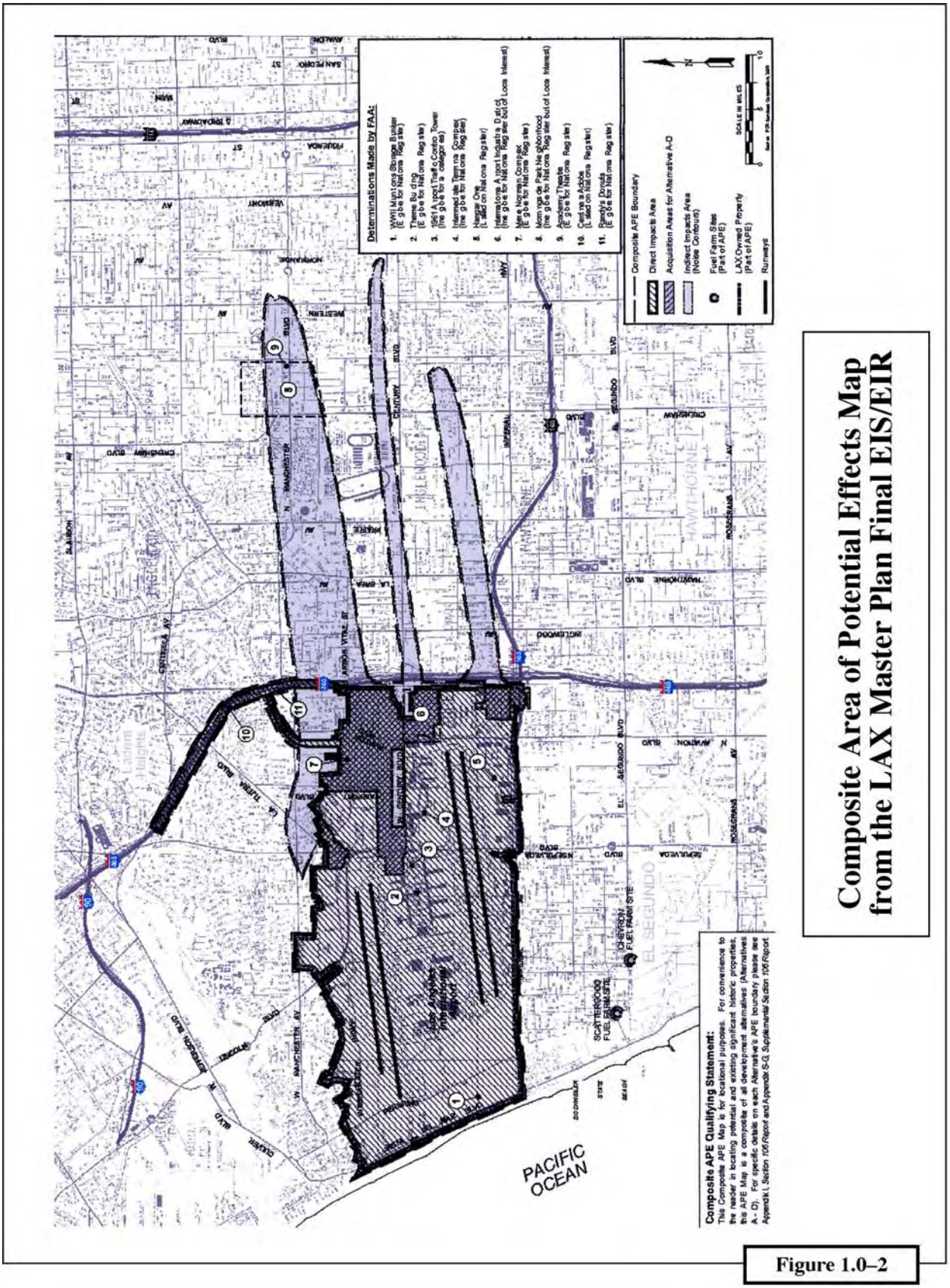
Composite Area of Potential Effects Map
from the LAX Master Plan Final EIS/EIR
Determinations Made by FAA:
1. WWII Munitions Storage Bunker (Eligible for National Register)
2. Theme Building (Eligible for National Register)
3. 1961 Airport Traffic Control Tower (Ineligible for a category es)
4. Interned ale Terminal Complex (Ineligible for National Register)
5. Hangar One (Listed on National Register)
6. International Airport Historic District (Ineligible for National Register but of Local Interest)
7. Mena Norman Complex (Eligible for National Register)
8. Morningside Park Neighborhood (Ineligible for National Register but of Local Interest)
9. Academy Theatre (Eligible for National Register)
10. Centinela Adobe (Listed on National Register)
11. Randolph Dorado (Eligible for National Register)
Composite APE Boundary
Direct Impacts Area
Acquisition Areas for Alternative A-D
Indirect Impacts Area (Noise Contours)
Fuel Farm Sites (Part of APE)
LAX Owned Property (Part of APE)
Runways
SCALE IN MILES
Composite APE Qualifying Statement:
This Composite APE Map is for locational purposes. For convenience to the reader in locating potential and existing significant historic properties, this APE Map is a composite of all development alternatives (Alternatives A - D). For specific details on each Alternative's APE boundary please see Appendix I, Section 106 Report and Appendix S-G Supplemental Section 106 Report.
PACIFIC OCEAN
SCATTERGOOD FUEL FARM SITE
CHEVRON FUEL FARM SITE

**Figure 1.0–2**

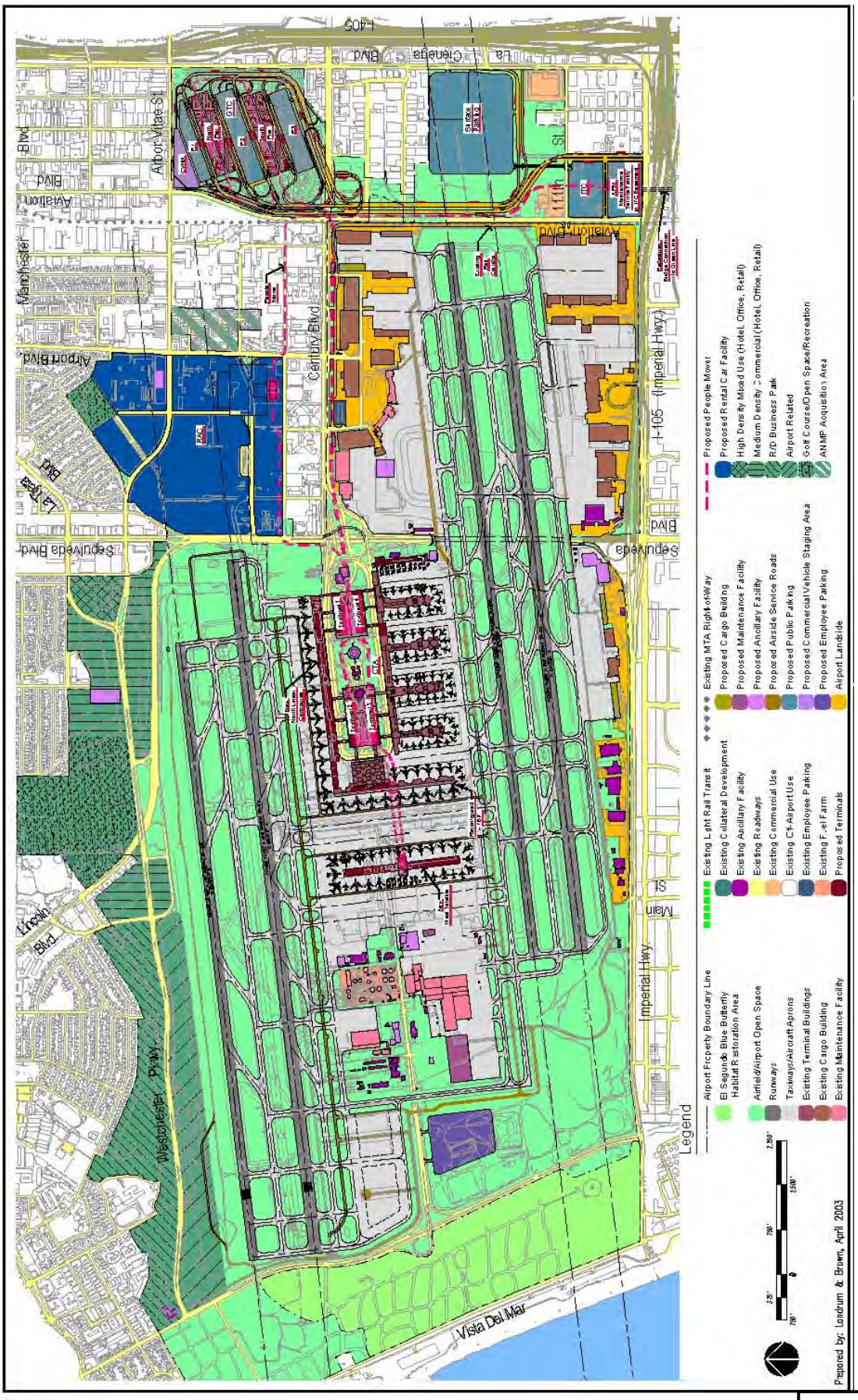
Alternative D – 2005 Enhanced Safety and Security Plan from the LAX Master Plan Final EIS/EIR
Legend
Prepared by: Landrum & Brown, April 2003
Vista Del Mar
Imperial Hwy
Westchester Pkwy
Lincoln Blvd
Sepulveda Blvd
Century Blvd
Manchester Blvd
Airport Blvd
Airport Village St
Aviation Blvd
I-405
I-105 (Imperial Hwy)

**Figure 1.0-3**

# 2.0 REGULATORY CONTEXT

The LAX Master Plan EIR identified possible impacts to identified resources within the project area that are of federal, state, and/or local significance. Section 4.9.1 of the LAX Master Plan Final EIR addresses the mitigation of potential impacts to these resources. In order to mitigate potential impacts to as yet *undiscovered* archaeological deposits, in accordance with federal, state, and local guidelines, the LAX Master Plan MMRP requires that an ATP be generated.

In order to accomplish the goal of long-term protection and proper treatment of unexpected archaeological deposits identified during grading, construction monitoring will be required in sensitive areas, or those areas identified as exhibiting a potential for buried cultural deposits. The ATP also provides guidelines for the documentation, evaluation, and treatment of identified resources. The following sections discuss the regulatory context and assessment criteria that should be used in the evaluation and treatment of unexpected archaeological discoveries identified during construction monitoring.

## 2.1 Applicable Regulations/Regulatory Agencies

Applicable statutes and regulations concerning the construction activities related to the APE and ATP include the following federal, state and local regulations.

### *2.1.1 Federal*

- Historic Sites Act and the National Register of Historic Places (National Register)
- National Historic Preservation Act (NHPA) and Section 106 of NHPA
- Advisory Council on Historic Preservation (ACHP)
- Archaeological and Historical Preservation Act (AHPA)
- Native American Graves Protection and Repatriation Act (NAGPRA)

The United States National Park Service, Department of the Interior, is the federal agency primarily responsible for the preservation of historic resources in the United States. In 1953, the Historic Sites Act was enacted, creating the National Register of Historic Places (National Register). The National Register is the official list of the nation's cultural resources worthy of preservation. The National Historic Preservation Act of 1966 (NHPA) and its subsequent amendments expanded the scope of the National Register, which now includes prehistoric and historic resources of national, state, and/or local significance, and created the Advisory Council on Historic Preservation (ACHP). Section 106 of NHPA requires federal agencies with jurisdiction over federally assisted undertakings to take into account the effects of such undertakings on properties that are listed or eligible for listing in the National Register. Section 106 gives the ACHP the opportunity to comment. The general process undertaken to comply with federal requirements under Section 106 is summarized below:

- Initiate the Section 106 process by determining if it is a project that could affect historic properties;
- Identify and evaluate historic properties within the APE for the National Register;
- Assess adverse effects on those historic properties eligible for inclusion in the National Register by applying the criteria of adverse effect;
- Resolve adverse effects by consulting among interested parties, including the State Historic Preservation Officer (SHPO), the federal agency (Federal Aviation Administration [FAA], in this case), the ACHP, local agencies, and representatives of the relevant Native American group(s);
- Consultation usually results in a Memorandum of Agreement, which outlines agreed-upon measures that the federal agency will take to avoid, minimize or mitigate the adverse effects;
- Proceed with the undertaking once the mitigations are incorporated into a Draft Environmental Impact Statement (EIS) or EIS record of decision (36 CFR Part 800).

Federal agencies are further obligated under the Archaeological and Historic Preservation Act (AHPA) of 1974 to notify the Secretary of the Interior when their action may cause the loss or destruction of significant scientific, historical, archaeological, or paleontological data. The AHPA protects significant scientific, historical, or archaeological data discovered during construction of any federal construction project or federally licensed activity or program (16 U.S.C. 469-469c). Furthermore, the Native American Graves Protection and Repatriation Act (NAGPRA) requires federal agencies and recipients of federal funds to take certain steps to inventory Native American human remains and cultural items, notify the relevant tribe or organization, and provide an opportunity for repatriation (25 U.S.C. 3001 et seq).

### *2.1.2 State*

- California Environmental Quality Act (CEQA) of 1970
- California Register of Historic Resources (California Register)
- Native American Heritage Commission (NAHC)
- California Coastal Act
- Various California Statutes and Regulations

When a proposed project may adversely affect a unique archaeological resource or historic resource, CEQA requires the lead agency to carefully consider the possible impacts before proceeding. The 1998 amendment to CEQA has highlighted the importance of evaluating possible impacts upon unique archaeological resources and historic resources. Although the California Register serves as the authoritative guide to historic resources that are to be considered under CEQA, the lack of a listing of a resource does not mean that it is not a significant historic resource. Such a resource could still be subject to CEQA environmental review and/or be of significance. Additionally, Section 21083.2 of CEQA ensures that potential

effects on unique archaeological resources are considered as part of a project's environmental analysis.

The California Register is an authoritative guide in California used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change. California properties formally determined eligible for, or listed in, the National Register, State Historical Landmarks and Points of Historical Interest, and other resources that are locally designated or have been identified according to California OHP guidelines are included in the California Register.

The California Coastal Act (California Public Resources Code Section 30244) was enacted by the State Legislature in 1976 to provide long-term protection of California's 1,100-mile coastline for the benefit of current and future generations. The Coastal Act states that, "[w]here development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required."

Public Resources Code, Sections 5097.9 to 5097.991, establishes the California Native American Heritage Commission, and gives it authority to protect sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines. It also creates a role for the Native American Heritage Commission relating to the treatment and disposition of human remains encountered during construction or other projects. Persons illegally obtaining Native American artifacts or human remains are guilty of a felony.

Finally, requirements relating specifically to the discovery of human remains, as they pertain to Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code, and Section 15064.5(e) of the CEQA Guidelines, are presented in detail in Section 5.7 of this ATP.

### *2.1.3 Local*

The APE for the LAX Master Plan, Alternative D, includes properties that are located within the County and City of Los Angeles.

The Historical Landmarks and Records Commission (Commission), established in 1966, acts in an advisory capacity for the County of Los Angeles Board of Supervisors (Board). The Commission is charged with the responsibility of reviewing and recommending to the Board local historical landmarks defined to be worthy of registration by the State of California, either as "California Historical Landmarks" or as "Points of Interest." The Commission also reviews and recommends applications of Los Angeles County properties to the National Register.

The Los Angeles Cultural Heritage Commission (CHC), created in 1962, has the responsibility of recommending Historic-Cultural Landmark designations for buildings and other historic and cultural sites to the City Council and providing protection for these resources against demolition. The CHC is responsible for determining whether nominations meet the criteria for

landmark designation and for reviewing changes to already designated sites.

## 2.2 Criteria for Evaluation of Identified Resources

### National Register of Historic Places

To be eligible for listing in the National Register, a resource should ordinarily be over 50 years of age and must possess significance in American history and culture, architecture, or archaeology at the national, state, or local level. Federal regulations for evaluating properties state: "The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- That are associated with events that have made a significant contribution to the broad patterns of our history; or,
- That are associated with the lives of persons significant in our past; or,
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or,
- That have yielded, or may be likely to yield, information important in prehistory or history."

### California Register of Historical Resources

The significance criteria used to determine the eligibility for listing in the California Register closely parallel those associated with the National Register. Certain resources are included in the California Register by statute, including California properties formally determined eligible for, or listed in, the National Register; State Historical Landmark No. 770 and all consecutively numbered historical landmarks following No. 770; and Points of Interest that have been reviewed by the California OHP and recommended for listing by the State Historical Resources Commission. Other resources that are eligible for the California Register include designations under local ordinances that meet certain requirements and/or which have been identified and evaluated by historic surveys conducted according to OHP guidelines.

A resource must meet one or more of the following criteria for listing on the California Register of Historical Resources:

- Is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- Is associated with the lives of persons important in local, California or national history;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or,

- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

## Unique Archaeological Resources (CEQA)

As defined under CEQA (Public Resources Code Section 21083.2) a "unique archaeological resource" is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

## County of Los Angeles (County)

The Los Angeles County Historical Landmarks and Records Commission is designated, pursuant to section 26490 of the Government Code, as a historical records commission for the purposes of fostering and promoting the preservation of historical records. The Commission considers and recommends to the County of Los Angeles Board of Supervisors (Board) local historical landmarks defined to be worthy of registration by the State of California Department of Parks and Recreation, either as California Historical Landmarks or as Points of Historical Interest. The Commission may also consider and comment for the Board on applications related to the National Register. The Commission utilizes the criteria specified in state and federal law for designation of historical resources.

## City of Los Angeles

According to the Los Angeles Administrative Code, "a historical or cultural monument is any site (including significant trees or other plant-life located thereon), building, or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, economic or social history of the nation, state, or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, state, or local history, or which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age."

To qualify as a contributing element of a City Historic Preservation Overlay Zone (HPOZ) the structures, natural features, or sites within the involved area, or the area as a whole, must meet one or more of the following criteria:

- Adds to the historic architectural qualities or historic associations for which a property is significant because it was present during the period of significance, and possesses historic integrity reflecting its character at that time; or,
- Owing to its unique location or singular physical characteristics, represents an established feature of the neighborhood, community, or city; or,
- Retaining the building, structure, landscaping or natural feature would contribute to the preservation and protection of an historic place or area of historic interest in the City.

At this time no HPOZ have been designated by the City of Los Angeles within the APE.

### 2.3 Resource Integrity

In addition to meeting one or more of the above criteria, significance is also evaluated based on the integrity of the archaeological site. Integrity refers to the degree to which the data that contributed to the significance of the site remains intact. The level of integrity for sites being evaluated for research potential depends on the data requirements of the research questions. Therefore, it is important that the relevant data contained in the site remain sufficiently intact (Neuman and Sanford 2001). Intact can be read as physically undisturbed relative to the way it has been in the past. Specifically for archaeology, the context in which the data is found is crucial for interpretation and evaluation (Neuman and Sanford 2001). In order to address research designs, archaeological data should be in their original location, retain depositional integrity, contain adequate quantities and types of materials, and exhibit clear associations (Jones and Stokes 2004). The California Register of Historic Resources recognizes seven types of integrity: location, design, setting, materials, workmanship, feeling, and association.

Archaeological sites that have been disturbed by ground moving activities such as construction, grading, trenching, and pot hunting are more likely to lack the integrity necessary to address relevant research designs. However, disturbed deposits can still retain the ability to address specific types of research issues, depending on the status of information already available for that subject, temporal period, or type of archaeological site. In this way, integrity refers to the undisturbed site relative to known examples (Neuman and Sanford 2001). Therefore, the relative integrity of an archaeological deposit must be evaluated within an appropriate comparative context, on a case by case basis.

# 3.0 ENVIRONMENTAL AND CULTURAL CONTEXTS

The project setting consists of the natural physical, geological, and biological context of the proposed project, as well as the cultural setting of prehistoric and historic human activities in the general area. An understanding of these elements is necessary for the accurate identification, evaluation, and treatment of cultural resources, both prehistoric and historic, that might be discovered during the monitoring of the LAX Master Plan Project. This section discusses both the environmental and cultural settings of the study area, the relationship between the two, and the relevance of this relationship to the project.

The environmental and cultural context presented here provides the background on which the research design provided in Appendix C is based. The research design presents general research issues that can be used to guide site significance evaluations should any previously unidentified archaeological deposits be discovered during monitoring.

## 3.1 Environmental Context

The following section characterizes the general area of the LAX Master Plan property and describes the environmental framework within which the prehistoric and historic occupations took place. LAX is located within the north coastal portion of the Los Angeles Basin Physiographic Province, and more specifically within the areas known as the Torrance Plain and the El Segundo Sand Hills (LAX Master Plan EIR). The El Segundo Sand Hills landform consist of a wide belt (three to six miles) of new and old sand dunes along the coast from the Ballona escarpment to the Palos Verdes Hills to the south. The Torrance Plain underlies the sand dunes to the east.

The project area is relatively flat although the topography slopes gently to the southeast. Based on U.S. Geological Survey maps [7.5-Minute Topographic Series, Hollywood Quadrangle Map (1981)], LAX is at an elevation of approximately 115 feet above mean sea level. The area is characterized by nearly level floodplains and terraces, with very gently sloping alluvial fans toward the edges of the plain. Dunes dominate the coastal area, with sand covering Quaternary deposits farther east behind the dunes. Within the LAX area recent and older dune deposits, older alluvium and sediments of the Lakewood Formation occur from ground surface to approximately 100 feet below ground surface (bgs). A general lithologic column of the LAX area consists of poorly graded sand to at least 20 feet bgs. Locally silty clay and clay lenses may occur with this poorly graded sand to 100 feet bgs. A clay layer at 20 feet bgs has been observed during subsurface investigations in the terminal area.

Although some portions of the project area still exhibit the characteristics of the original sand dunes, the original coastal slope and undulating dunes were subjected to grading and infilling as the airport developed. During preparation of the EIR, a review of the geotechnical investigations was conducted by LAWA. Based on the review, it was determined that large amounts of fill were placed under the direction of the Los Angeles City Department of Public

Works during airport development in the 1950s and early 1960s. The thickness and origin of the fill material was not known in all areas; however, artificial fill up to 23 feet thick may be present in the Central Terminal Area. Although few areas within the project area remain undisturbed, the actual level of impacts or depth of imported fill covering areas where cultural resources may be located cannot be accurately determined because the activities associated with the construction and development of LAX over several decades cannot be fully documented. The depth of imported fill or extent of grading over time cannot be determined to the extent that the potential for cultural resources could be verified.

Several rivers flow through the Los Angeles Basin, including the more major rivers of the Los Angeles, San Gabriel, and Santa Ana. The Los Angeles River is the largest river on the plain, draining the San Fernando Valley and much of the San Gabriel Mountains. Present-day, most of the rivers are dry through the summer months.

The Los Angeles Basin is subjected to unpredictable floods of varying intensities due to migration of the Los Angeles River. The variability in water discharge over the years has resulted in the three primary rivers, and many small ones, changing courses numerous times throughout history and prehistory, with the riverbeds meandering across the basin (Altschul and Grenda 2002). Not surprisingly, flooding, sometimes with great intensity, has undoubtedly created an environmental challenge to flora and fauna, as well as to prehistoric peoples living within the Los Angeles Basin (Altschul and Grenda 2002). So too have drought conditions, particularly in estuarine environments, which are very sensitive to the amount of sediment they can handle. The build up of sediment at ocean inlets, particularly common during periods of drought, results in an enclosed body of water with its own microenvironments. Estuaries combine marine, freshwater, and terrestrial resources in a compact area, resulting in very productive environment for prehistoric occupants, albeit for relatively short durations (Altschul and Grenda 2002).

The climate within the project area is hot and subhumid and is modified strongly by marine influences. The mean annual precipitation is about 12 to 20 inches, which is predominantly in the form of rain. The mean annual temperature for the area is 58 to 64 degrees Fahrenheit. Fog is common in the summer and the area rarely experiences freezing temperatures. During the Early Holocene (10,000 to 6,000 years ago), the Altithermal would have resulted in periods of even warmer temperatures.

The predominant natural plant communities in the Los Angeles Basin include California sagebrush-California buckwheat series and mixed sage communities. Microenvironments in the area include dunelands, saltmarsh, grasslands, shrublands, and woodlands; each is associated with distinct vegetative series. The vegetation within the APE prior to historic farming and later airport development was predominantly California sagebrush, buckwheat, and dune species.

Although the area is predominantly urban, natural animal species include mule deer, coyote, bobcats, fox, skunk, raccoon, opossum, ground squirrel, various bird species,

rattlesnakes, alligator lizards, salamanders, and frogs. Marine species include sea lions, seals, brown pelicans, gulls, cormorants, terns, and various shore birds.

## 3.2 Cultural Context

The LAX Master Plan EIR provided a generalized cultural context from which the following summaries were compiled and augmented with additional data as appropriate.

### *3.2.1 Prehistoric*

The oldest directly dated human remains from coastal southern California are those of the "Los Angeles Man." These remains were dated to 26,000 B.P. using amino acid racemization and radiocarbon techniques, although later dates using the more reliable accelerator mass spectrometry method determined that that date was exaggerated (Altschul and Grenda 2002). Evidence of Early Holocene occupation along the southern California coast and islands has, however, been increasing, including the Arlington Springs site on Santa Rosa Island, the Arlington Springs and Daisy Cave site on San Miguel Island, and Eel Point on San Clemente Island (Altschul and Grenda 2002). These sites appear to suggest an early Holocene migration southward along the coast. The fact that these early sites are present on the islands, and have yet to be found on the coast, lends support for the view that rising sea levels probably have destroyed Early Holocene coastal sites. This period covers Wallace's Period I or Early Man cultural sequences (Moratto 1984).

Due to a rapid and prolonged rise in sea level during the early Holocene, between 10,000 and 6,000 years before present, many archaeological sites associated with this early period along coastal southern California were probably destroyed or obscured by sea level advancement or sedimentation (Carbone 1991). The increase in sea levels probably forced a shift from rocky shore resources (shellfish) to estuarine and lagoon resources consisting of a more varied economy, including marine, avian, and terrestrial species (Carbone 1991). The natural history of the Ballona wetlands, located directly north of the project area, have been constructed based on stratigraphic analysis (Altschul and Grenda 2002). The results suggest that after sea levels stabilized around 7,000 years before present (BP), a variety of depositional environments were created, reshaping the landscape on which inhabitants were living. By 6,200 years BP, a spit of sand migrated across the mouth of the coastal inlet, creating a shallow lagoon; this area appears to have been visited by Native Americans at about this time (Altschul and Grenda 2002). As sedimentation increased, the lagoon gradually decreased in size. Because tidal waters were blocked, the lagoon shifted from marine water to freshwater. As the lagoon gradually turned into tidal marshes and estuarine environments became well-established, habitation along the edges of the water source increased. Based on archaeological evidence, permanent occupation in the area appears to have occurred by 3,000 years ago and lasted until the protohistoric period (Altschul and Grenda 2002).

Human adaptations during the middle Holocene (ca. 8,000 to 5,000 years BP) in the Los Angeles Basin are characterized by an abundance of grinding implements, specifically manos and metates. Rising sea level began to stabilize and temperatures reached a thermal optimum at about 6,800 years BP (Altschul and Grenda 2002). Archaeological sites dating to this period tend to be located in grasslands and sagebrush communities on elevated landforms, some distance from the shore (Altschul and Grenda 2002). Other characteristics of this period include stone ornaments, large projectile points, and charm stones, while bone and shell tools, ornamentation, and trade items are rare. Sites from this period appear to have consisted of semi-sedentary settlements with populations ranging from 15 to 100 people, primarily located in the coastal zone and along interior drainages. This is the period during which the Ballona region directly to the north of the project was first occupied (Altschul and Grenda 2002). This period covers Warren's Encinitas Tradition and Wallace's Period II or Millingstone Horizon cultural sequences (Moratto 1984). The later date given for the Millingstone Horizon varies to as late as 3,000 years BP; the lack of trade items such as obsidian and steatite are often used to attribute a site to this period. Site CA-LAN-2345, located within the APE for the LAX Master Plan and evaluated as eligible for listing in the National Register, was tentatively assigned to this period, based on radiocarbon dates on marine shell and the lack of trade goods. This was the only prehistoric resource of the eight that were identified that could be tentatively placed within a temporal period; the remaining sites did not exhibit characteristics that allowed such an assignment.

A shift appears to have occurred in the later part of the middle Holocene, between 5,000 and 3,350 years BP (Altschul and Grenda 2002). Mortars and pestles were more common, suggesting that acorns were being exploited, which became an important part of the prehistoric diet in southern California. Other characteristics of this period include variations of large stemmed, leaf-shaped, and side-notched points, basket-hopper mortars, a variety of stone tools, bone tools, and shell ornamentation. This period corresponds to Warren's (1968) Campbell Tradition and Wallace's (1955, 1978) Period III or Intermediate Horizon, although, again, the ending date for these periods varies to as late as approximately 1,000 years BP (Moratto 1984). There appears to have been a general shift from plant-based economy to one that was more diversified, a generalized hunting-fishing-gathering adaptation, possibly in response to the Altithermal (8,000 to 3,000 years BP) (Altschul and Grenda 2002). Evidence suggests that coastal populations placed an understandable emphasis on marine resources, while the focus of inland occupation was on hunting land mammals. Trade goods became more common during this period, suggesting intensified regional economic exchange and interaction. Finally, villages appear to be more permanent during the intermediate Horizon and closely resemble the later settlement pattern of the region (Altschul and Grenda 2002). By 3,000 years BP, the Ballona region to the north was intensively and relatively permanently occupied. Some researchers suggest the increasing population density during the late middle Holocene did not necessarily

grow out of the local population, but was a result of a desert migration, perhaps as early as 3,000 years BP (Altschul and Grenda 2002).

During the late Holocene, population size and density increased dramatically, calling for an even more diversified economy (Altschul and Grenda 2002). This period is Wallace's Period IV or Late Horizon. Ethnographic data, the first of which was Spanish explorers and missionaries, indicate the Gabrieliño were the major tribe established within the project area. This name was attributed by the Spanish to the Native Americans in the area served by the San Gabriel Mission. Gabrieliño territory included the watersheds of the San Gabriel, Santa Ana, and Los Angeles Rivers; portions of the Santa Monica and Santa Ana Mountains; the Los Angeles basin; the coast from Aliso Creek to Topanga Creek; and San Clemente, San Nicolas, and Santa Catalina Inlands (Jones and Stokes 2004). The Gabrieliño spoke a Cupan language that was part of the Shoshonean or Takic family of Uto-Aztecan linguistic stock; these linguistic ties united a disperse ethnic group occupying 1,500 square miles in the Los Angeles basin region (Altschul and Grenda 2002). Interestingly, this language stock was different from that of the Chumash to the north in the Santa Barbara region, as well as from the Kumeyaay (Tipai and Ipai) in the San Diego region, both of which spoke languages of the Hokan stock, although different dialects.

Ethnographic data state that the Gabrieliño were hunters and gatherers whose food sources included acorns, seeds, marine mollusks, fish, and mammals; archaeological sites support this data, with evidence of hunting, gathering, processing, and storage implements including arrow points, fishhooks, scrapers, grinding stones, and basketry awls (Altschul and Grenda 2002). Santa Catalina Island provided a valuable source of steatite for the Gabrieliño, which they quarried and traded to other groups (Heizer and Treganza 1944; Muratto 1984). About 50 to 100 permanent villages are estimated to have been in existence at the time of European contact, most of them along lowland rivers and streams, and along sheltered areas of the coast (Jones and Stokes 2004). Smaller satellite villages and resource extraction sites were located between larger villages. Village sites contained varying types of structures, including houses, sweathouses, and ceremonial huts (Bean and Smith 1978). Artistic items included shell set in asphaltum, carvings, painting, steatite, and baskets (Jones and Stokes 2004). Settlements were often located at the intersection of two or more ecozones (Jones and Stokes 2004), thus increasing the variety of resources that were immediately accessible. Offshore fishing and hunting was accomplished with the use of plank boats, while shellfish and birds were collected along the coast. At the time of European contact, the Gabrieliño, second only to the Chumash, were the wealthiest, most populous, and most powerful ethnic group in southern California (Bean and Smith 1978; Moratto 1984).

As with other Native American populations in southern California, the arrival of the Spanish drastically changed life for the Gabrieliño. Incorporation into the mission system disrupted their culture and changed their subsistence practices (Altschul and Grenda 2002). Ranchos were established throughout the area, often in major drainages where Native American

villages tended to be located. By the early 1800s, Mission San Gabriel had expanded its holdings for grazing to include much of the former Gabrieliño territory (Altschul and Grenda 2002). Eventually, widespread relocation of Native American groups occurred, resulting in further disruption of the native lifeways. Together with the introduction of Euro-American diseases, the Gabrieliño and other groups of southern California experienced drastic population declines; in the early 1860s, a smallpox epidemic nearly wiped out the remaining Gabrieliño population (Jones and Stokes 2004). While people of Gabrieliño descent still live in the Los Angeles area, the Gabrielino were no longer listed as a culturally identifiable group in the 1900 federal census (Bean and Smith 1978; Jones and Stokes 2004)

### *3.2.2 Historic*

The following historic context is based on the extensive history of the project area provided in Appendix S-G, Supplemental Section 106 Report of the LAX Master Plan Final EIR. The information has been augmented by supplemental contextual data where appropriate.

During California's Rancho period, when Mexican governors of Alta California gave large tracts of land to retired soldiers and others, Antonio Ygnacio Avila settled near the current project area and raised cattle on a large tract of land bordering upon the Pacific Ocean. This area, currently known as Inglewood and located between present day Playa del Rey and Redondo Beach, was given to Avila by the Mexican government in 1837. He called his holdings Rancho Sausal Redondo. Another nearby rancho was granted to Ygnacio Machado by the governor of Mexico in 1844; the land was then traded to Bruno Avila, brother of Antonio Ygnacio Avila in 1845, for a small tract of land in the pueblo of Los Angeles. This rancho was named Rancho Ajuaje de la Centinela, which means "Sentinel of Waters." Between the two ranchos, the Avila brothers came to posses over 25,000 acres stretching from the sea almost to the City of Los Angeles. Today, the area that was once Rancho Aguaje de la Centinela includes portions of Inglewood (west half) as well as the east half of Westchester. It is believed that the Centinela Adobe was built in the mid-1840s. The building is single-floor adobe with a wood shingle roof, fireplaces, and deep window reveals. The Centinela Adobe was placed on the National Register of Historic Places in 1974 (NR No. 19740502). Because of its National Register listing, the Centinela Ranch House is automatically eligible for the California Register. It is also a designated Los Angeles County Historical Site.

After California was annexed by the United States, Rancho Ajuaje de la Centinela passed into various hands, eventually being purchased by Sir Robert Burnett, a Scottish lord, in 1860. With the death of Antonio Ygnacio Avila in 1858, Rancho Sausal Redondo passed to a number of heirs over the years. As settlement for accumulated debts, the holdings of Rancho Sausal Redondo passed to Sir Robert Burnett in 1868. Burnett combined the two ranchos, calling the combined holdings Rancho Centinela. When Burnett returned to Scotland in 1873, the land was leased by Daniel Freeman, a Canadian lawyer, with an option to buy. Freeman purchased a portion of Rancho Centinela in 1882 and the rest of the property in 1885. He raised sheep on the

land, until a series of dry seasons forced him into dry farming; by 1880, the ranch was a success, producing a million bushels of barley a year.

In 1887, during the real estate boom of southern California, Freeman sold a portion of his ranch. This land was subdivided and platted to form the new town of Inglewood. Andrew Bennett leased 2,000 acres of Freeman's land in the late 1880s or early 1890s to plant lima beans, barley, and wheat. The area eventually became know as the Bennett Rancho. Portions of the old Rancho Centinela were sold to various companies, including James Martin and the Los Angeles Extension Company, which Martin controlled. By 1922, Bennett had expanded his leased land, now owned by Martin, to 3,000 acres, on which he grew wheat, barley, and lima beans.

American aviation was initiated by the Wright Brothers on December 17, 1903. The country's first international air meet was held in Los Angeles in 1910. Aviation in the United States was given a tremendous boost by the military use of the new technology during World War I. After the conflict ended, small airfields began to spring up all over the country, including Los Angeles. By the 1920s, a small portion of the Bennett Rancho was being used as a makeshift landing strip. Pilots came to recognize the flat farmland of the Bennett Rancho, near the present-day intersection of Imperial and Aviation Boulevards, as a safe spot for emergency landings and practice.

Los Angeles Municipal Airport (1928-1945)

The City of Los Angeles, supported by the Chamber of Commerce, began looking for potential sites for an airport in 1926. Several promoters, including local citizens such as Inglewood Municipal Judge Frank D. Parent, as well as real estate promoters and developers began pushing for the establishment of an airport at Bennett Rancho. In 1927, real estate agent William W. Mines, representing the Martin interests, offered 640 acres of the former Bennett Rancho for use as an airport. The choosing of "Mines Field" for the 1928 National Air Races convinced the City to makes its final decision. On August 13, 1928, the City of Los Angeles authorized an ordinance leasing 640 acres of Mines Field for the first Los Angeles Municipal Airport.

The Department of Airports, a municipal organization, was formed to operate the airport on October 1, 1928. Initially, airport attendants used small sheds as a headquarters, while most people in the Department of Airports worked in downtown Los Angeles. There was no control tower and takeoff and landings were controlled by flagmen.

The first permanent building to be constructed on the airfield was a hanger, designated Hanger One, completed in 1929 by the Curtiss-Wright Company, one of the largest firms in the aircraft industry. This structure became home to the Curtiss Flying Service's flying school and its fleet of Robin aircraft. The structure was constructed in the Spanish Colonial Revival style by

architects Gable and Wyant. The oldest building at LAX, Hangar One was listed in the National Register of Historic Places in 1992.

A 2,000-foot all weather runway was constructed by the city, using a base of decomposed granite and oil. At the same time, plans for a restaurant building and two new hangers were underway. Both Hanger Two and Hanger Three repeated the Spanish Colonial Revival style of Hanger One. Hanger Two and Hanger Three were linked together by an office wing surmounted by a tower. The offices became the administrative headquarters for the airport. These changes were seen by the crew of the German airship, Graf Zepplin, which landed at Mines Field for a one day visit on August 26, 1929.

The next construction at the airport occurred after the airport's dedication in June 1930. Two new 4,000 square foot hangers were constructed for the Larry Talbert's flying school and Pacific Aeromotive's repair shop. Next a dope house was constructed; dope was used to cover, strengthen, and waterproof the fabric covering used on aircraft. Los Angeles' Municipal Airport was becoming a home to private pilots and flying schools, not the commercial passenger services on which the City of Los Angeles had been counting.

After extensive evaluations, Trans World Airways (TWA) and American Airlines agreed to relocate their operations to the municipal field, provided it was developed to accommodate passenger service. In 1935, airport administrators undertook several large projects under the direction of the Emergency Relief Administration, including grading operations, runway construction, and installation of a new sewer line.

The Works Progress Administration approved improvements for the north side of the airfield in 1937, including a 300-foot wide, east-west runway stretching 4,650 feet across the field, as well as sewers, waterlines, grading, and increased drainage. Runway and field lights were also installed during this period.

In the early 1940s, plans were made to relocate the hub of the airport to the north side of the property, adjacent to Century Boulevard. However, due to World War II, this master plan was never developed.

World War II brought about several changes at Los Angeles Municipal Airport. The aeronautical manufacturing companies on or near the airport increased production and the airport flying schools were in high demand. In 1942, the federal government assumed control of the airport, with the facility now integrated into the national military and defense establishment. A mess hall, officers' quarters, and barracks were built for the Army Air Corps at a location north of Imperial Boulevard and west of Sepulveda Boulevard. Airport facilities were camouflaged so as to appear as a large dairy farm from the air.

Other installation during the military period of the municipal airport included the El Segundo Battery in the dunes west of the airport in 1942-43, and the expansion of the runway to 4,600 feet. This battery was part of various coastal defenses that were installed throughout the Pacific Coast during World War II to protect aircraft and restrict damage to the mainland, should the enemy attack. The El Segundo battery consisted of two gun mounts, a base-end station, blast

mats, trench, and an underground munitions bunker and served to protect the military base at the airport. The now exposed Munitions Storage Bunker (originally placed underground) appears to be the only extant remnant of the El Segundo Battery. Because of its contribution to a unified entity (the Harbor Defenses of Los Angeles program), the Munitions Storage Bunker appears to be eligible for the National Register under Criteria A and C as a contributor to a thematic district.

A new master plan was developed in early 1943 that would expand the field eastward and construct new terminals and administration buildings. Commercial airline carriers agreed to relocate to Los Angeles airport after the war ended, provided the facilities were completed. The master plan released in August of 1944 provided for two phases of development: an initial stage to immediately accommodate commercial operations, and a subsequent, long-range expansion of the field to the west.

Los Angeles International Airport

Identified as the "Intermediate Facilities," construction began on the new complex in 1945. The facilities consisted of four wood-framed buildings on the north side of the airport, one for administration and three served as terminals. The complex also included the paving of a parking lot for 800 cars, a loading apron, and the extension of the runways. Two office buildings and one hangar from this complex remain extant today. While the remaining structures were evaluated as not eligible for listing in the National Register due to loss of integrity, they do meet the criteria for state and local designation.

The airlines began construction on their own hangars at the new facility, and four of the five opened for business in December of 1946; Pan American Airways joined the other major carriers in the municipal airport in 1947. The Civil Aeronautics Administration soon determined that the airfield's facilities were adequate for international, intercontinental, and long, nonstop domestic flights. The airport was renamed Los Angeles International Airport (LAX) on October 11, 1949.

The airport was soon overcrowded. A separate air freight building was finished in 1951, opening up more space for passenger accommodations, but services were not adequate for the increased passenger traffic through the airport.

In the early 1950s, as plans for a new master plan for the airport were developed, the existing facilities were expanded, including the expansion of terminals, enlarged parking areas, and a new maintenance building. But several problems persisted. Sepulveda Boulevard was rerouted to the west to allow the extension of the runways, and even then they weren't long enough for the larger Pan American Clipper planes. Construction of an underground tunnel began in 1951; this tunnel was to divert auto traffic along Sepulveda Boulevard under the airport. Six lanes of traffic through the tunnel opened in 1953, at which point the runway could be expanded to 8,000 feet long.

The International Airport Industrial District was built between 1950 and 1955. It is located within the City of Los Angeles and is bounded by 102$^{nd}$ Street and Century Boulevard on

the north, 104th Street on the south, La Cienega Boulevard on the east, and Aviation Boulevard on the west. Originally containing approximately 80 industrial buildings, the district now contains approximately 48 buildings, 28 of which have undergone modifications to their exteriors. Because of its compromised integrity, the complex is ineligible for the National Register. However, the complex does retain sufficient integrity necessary for California Register and City of Los Angeles designations, as well as the criteria for designation as a City of Los Angeles Historic Preservation Overlay Zone because of its association with architect S. Charles Lee.

In 1954, the U.S. Army located a NIKE launch site on the northwest corner of the airport property. Large silos were dug into the ground to house six missile launchers and a pair of underground magazines. A radar tracking system and barracks were also constructed for those charged with manning the facility. Known as Site 70/73, these NIKE radar and launch sites at LAX were activated in 1958 and operated until 1963. The silos were then destroyed and removed from LAX in the late 1980s for the construction of Westchester Parkway. Today, the barracks and administration building are extant and are currently used by Jet Pets, an animal transportation company.

Large-scale improvements at LAX began in 1957. This began the period that resulted in the current design of LAX. The proposal was for a series of six ticketing buildings facing onto a U-shaped access road. The ticketing areas were connected to remote buildings called satellites by underground passageways. In the center of the U-shape was a sunken half-mile long mall that held parking for 5,000 cars, a restaurant, an employee cafeteria, electrical and heating plants, and the airport administration/control tower building. The control tower, at the time the highest in the world at 172 feet, and administration building was completed in 1961. This structure marked the entrance to the new "Jet Age" facility. Though associated with the new Los Angeles "Jet Age" International Airport of the early 1960s, the building has been modified over the years to a degree where it lacks overall integrity. Due to its lack of integrity, this property, still extant, is ineligible for listing in the National Register, the California Register, and for local designation.

The commercial companies gradually began to fill and begin passenger service from the new facility. The last passenger terminal and satellite complex to be completed was the International Terminal Complex on the north side of the terminal area. This new complex was intended to be temporary in nature and housed customs, immigration, agriculture, and public health inspectors, in addition to the usual ticketing, boarding, and baggage areas. Because of its compromised integrity, the complex is ineligible for the National Register. However, the complex does retain sufficient importance as a representative milepost in the evolution of LAX. The complex is historically significant under the City of Los Angeles Historic-Cultural Monument criteria, and also meets the criteria for the California Register.

The Theme Building, which symbolizes the so-called "Jet Age," was constructed in 1961 and opened to the public in 1962. The modern parabolic arch dominates the center of the terminal area, with four legs rising 135 feet from the ground, measuring 340 feet across at the

base. An observation deck and restaurant with a view capped the structure. Thirty years after its construction, in 1992, the Theme Building was made the City of Los Angeles Historic-Cultural Monument #507. For its unique architecture, which has become symbolic not only of the airport but of the whole city, the Theme Building satisfies National Register Criteria Consideration G for exceptional significance in a building less than 50 years old. The Theme Building is also eligible for listing in the California Register for architectural merit under Criterion 3.

Following World War II, suburban tract homes were constructed adjacent to the airport in nearby El Segundo, Inglewood, Westchester, and Playa del Rey. Due to noise created by the modern jets using the airport, houses in these areas were removed. The removal of houses to create clear zones exposed new neighborhoods to direct noise from aircraft. Between 1965 and 1986, the airport spent over $145 million purchasing homes and property in areas such as Palisades Del Rey, West Westchester, Emerson Manor, North Westchester, and North Playa del Rey.

In 1964, the area east of Sepulveda Boulevard that had previously housed the Intermediate airport facility was planned for expansion due to the increase in air freight. The four 1945 passenger terminals were demolished to make room for a new air cargo center, Cargo City. Remaining from the original complex are two office buildings and one hangar; evaluation of these structures indicate that they meet the criteria for state and local designation, but not for listing in the National Register.

In 1968, a two-story World Way Postal Center was constructed on Century Boulevard. In 1970, a new terminal for commuter traffic and air taxis was completed at the west edge of World Way. In 1974, a sound barrier was constructed along a 1500-foot stretch of its north boundary. In addition, a 12-foot high acoustical wall atop an eight-foot landscaped berm was installed to protect Westchester residents from the airport's noise.

The 1984 Olympic Games called for additional expansion of the airport. The rebuilding program, started in 1981, included a new double deck, 2.8-mile long roadway system, the addition of more than one million square feet of new terminal space, provision of 8,800 new parking spaces, the remodel of most existing terminal spaces, and reconstruction of the central utility plant and runways.

In the southeast corner of the airfield, along Imperial Highway, many of the airport's original hangars and control tower were demolished in 1974. Cargo terminals, including the Gateway Cargo Center, and miscellaneous buildings were constructed in their place in the 1980s. Hangar One, designated Historic-Cultural Monument #44 by the City of Los Angeles in 1966, remains standing. This structure was restored and rededicated in 1900 for use as an air freight office. It was listed on the National Register of Historic Places in 1992.

One of the latest structures to be added at LAX is that of the new Airport Traffic Control Tower. This structure was built adjacent to the "Jet Age" Theme Building to compliment that structure. The new tower was opened in 1996.

The surrounding communities of Westchester, Inglewood, and El Segundo saw increased industrial, residential, and commercial activity from the 1930s onward. By 1937, California as a whole had become the national leader in aircraft production and a large portion of the jobs in Los Angeles were accounted for by the aircraft industry. Through the late 1930s and early 1940s, the growth of the industry was a result of military demands. In the 1940s, large tract home developments began to appear in nearby communities such as Westchester, to support the aircraft industry and other associated businesses. In fact, the aircraft industry, coupled with the Santa Fe Railroad expansion to the Los Angeles harbor, can be seen as stimulating development throughout the neighboring areas, including the Westchester Business District, and industrial development in Inglewood and El Segundo.

# 4.0 TREATMENT PLAN GOALS AND OBJECTIVES

This ATP complies with the stated mitigation measures presented in Section 4.9.1.8 of the LAX Master Plan Final EIR and set forth in the MMRP. Specifically, the ATP addresses mitigation measures MM-HA-4 through MM-HA-10. The overall goal of the ATP is the protection and treatment of archaeological deposits that are discovered during the grading and construction process for the LAX Master Plan Project according to the appropriate federal, state, and local guidelines. The applicable mitigation measures are as follows:

- **MM-HA-4.** *Discovery:* The FAA shall prepare an archaeological treatment plan (ATP), in consultation with State Historic Preservation Officer (SHPO), that ensures the long-term protection and proper treatment of those unexpected archaeological discoveries of federal, state, and/or local significance found within the APE of the selected alternative. The ATP shall include a monitoring plan, research design, and data recovery plan. The ATP shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation; California Office of Historic Preservation's (OHP) *Archaeological Resources Management Report; Recommended Contents and Format (1989),* and the *Guidelines for Archaeological Research Design* (1991); and shall also take into account the ACHP's publication *Treatment of Archaeological Properties: A Handbook.* The ATP shall also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA. In addition, those steps outlined in Section 21083.2(i) of CEQA and Section 15064.5(f) of the CEQA Guidelines shall be implemented, as necessary.

- **MM-HA-5.** *Monitoring:* Any grading and excavation activities within LAX proper or the acquisition areas that have not been identified as containing redeposited fill material or having been previously disturbed shall be monitored by a qualified archaeologist. The archaeologist shall be retained by LAWA and shall meet the Secretary of the Interior's Professional Qualifications Standards. The project archaeologist shall be empowered to halt construction activities in the immediate area if potentially significant resources are identified. Test excavations may be necessary to reveal whether such findings are significant or insignificant. In the event of notification by the project archaeologist that a potentially significant or unique archaeological/cultural find has been unearthed, LAWA shall be notified and grading operations shall cease immediately in the affected area until the geographic extent and scientific value of the resource can be reasonably verified. Upon discovery of an archaeological resource or Native American remains, LAWA shall retain a Native American monitor from a list of suitable candidates obtained from the Native American Heritage Commission.

- **MM-HA-6.** *Excavation and Recovery:* Any excavation and recovery of identified resources (features) shall be performed using standard archaeological techniques and the requirements stipulated in the ATP. Any excavations, testing, and/or recovery of resources shall be conducted by a qualified archaeologist selected by LAWA.

- **MM-HA-7.** *Administration:* Where known resources are present, all grading and construction plans shall be clearly imprinted with all of the archaeological/cultural mitigation measures. All site workers shall be informed in writing by the on-site archaeologist of the restrictions regarding disturbance and removal, as well as procedures to follow should a resource deposit be detected.

- **MM-HA-8.** *Archaeological/Cultural Monitoring Report:* Upon completion of grading and excavation activities in the vicinity of known archaeological resources, the Archaeological/Cultural monitor shall prepare a written report. The report shall include the results of the fieldwork and all appropriate laboratory and analytical studies that were performed in conjunction with the excavation. The report shall be submitted in draft form to the FAA, LAWA, and City of Los Angeles-Cultural Affairs Department. City representatives shall have 30 days to comment on the report. All comments and concerns shall be addressed in a final report issued within 30 days of receipt of city comments.

- **MM-HA-9.** *Artifact Curation:* All artifacts, notes, photographs, and other project-related materials recovered during the monitoring program shall be curated at a facility meeting federal and state standards.

- **MM-HA-10.** *Archaeological Notification:* If human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified; compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, those steps outlined in Section 15064.5(e) of the CEQA Guidelines shall be implemented.

The ATP is essentially a tool for the implementation of the mitigation monitoring program required for the LAX Master Plan Program. With the adoption of the ATP, LAWA can proceed in compliance with various agencies' regulations and the conditions stated in the MMRP.

# 5.0 CREATION AND IMPLEMENTATION OF ATP

## 5.1 Management Coordination

### *5.1.1 Consultant Qualifications*

The archaeologist retained by LAWA shall meet the Secretary of the Interior's Professional Qualifications Standards. These standards are used by the National Park Service (NPS), have been published in the Code of Federal Regulations, 36 CFR Part 61, and are found on the NPS website (http://www.cr.nps.gov/local-law/arch_stnds_9.htm). These qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment of archaeological remains. According to these standards, a year of full-time professional experience need not consist of a continuous year of full-time work but may be made up of discontinuous periods of full-time or part-time work adding up to the equivalent of a year of full-time experience. The Secretary of the Interior's Professional Qualifications Standards for an archaeologist are as follows:

> The minimum professional qualifications in archaeology are a graduate degree in archaeology, anthropology, or closely related field plus:
>
> - At least one year of full-time professional experience or equivalent specialized training in archaeological research, administration or management;
> - At least four months of supervised field and analytic experience in general North American archaeology, and;
> - Demonstrated ability to carry research to completion.
>
> In addition to these minimum qualifications, a professional in prehistoric archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the prehistoric period. A professional in historic archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

As stated in the NPS qualifications standards, in some cases, additional areas of experience may be needed, depending on the complexity of the task and the nature of the historic properties involved. Because the NPS qualification standards make no specific recommendations as to qualifications, positions, and relevant responsibilities for monitoring projects, the following three professional archaeological positions and qualifications are recommended as guidelines for efficient implementation of this ATP. LAWA must ensure that the implementation of the ATP includes individuals properly qualified for the cultural resource(s) being investigated. These positions are recommended as a guideline and may vary

depending on the archaeological consultant hired by LAWA. In addition, the level of effort of each individual position will vary depending on the task at hand; not all of the positions described below will translate to active participation on a daily basis. For example, managerial tasks will require the Principle Investigator (PI) and/or the Monitoring Program Manager/Project Archaeologist (MPM), while monitoring will typically require frequent involvement of the Cultural Resources Monitor (CRM) with some MPM and minimal PI involvement; the discovery of cultural materials will require more involvement of the managerial positions.

**Principal Investigator (PI)** - Supervision of all aspects of the archaeological monitoring program and ensure that the ATP and MMRP are implemented through the Monitoring Program Manager/Project Archaeologist (MPM). The PI must have the following minimum qualifications:

- More than 10 years as Principal Investigator conducting studies in southern California.
- Experienced with archaeological and historical studies for federal, state and local agencies, and/or registered with the Register of Professional Archaeologists.
- Have a graduate degree in Archaeology, History, Anthropology, or other closely related field.
- The range of projects overseen and completed by the PI should include small to large scale mitigation monitoring programs, literature searches, cultural resource inventories, site recording, archaeological site testing and evaluations, large-scale data recovery mitigation programs, preservation plan implementation, and preparation of detailed technical reports.
- Experience directing and serving as Principal Investigator on archaeological investigations and preparation of documents for Section 106 (NEPA/NHPA) CEQA compliance.

**Monitoring Program Manager/Project Archaeologist (MPM)**—Direction of all monitoring activities, oversee the implementation of the ATP, oversee any excavations that might be needed should cultural deposits be identified, and have direct, daily contact with the Cultural Resources Monitor (CRM). The MPM must have the following minimum qualifications:

- More than five years experience with mitigation monitoring programs, historic and prehistoric site assessments, and site studies in southern California.
- Have a graduate degree in Archaeology, History, Anthropology, or other closely related field.
- Experienced with archaeological and historical studies for federal, state and local agencies and/or registered with the Register of Professional Archaeologists.

- Extensive experience in archaeological site evaluations, prehistoric and historic artifact analysis, and with developing and the completion of prehistoric and historic research programs.
- The MPM must have a thorough knowledge of the prehistoric and historic research issues in the region.
- Special expertise in coastal geological formation and the potential for archaeological deposits in those contexts would be helpful given the location of the project.

**Cultural Resources Monitor (CRM)-**Responsible for all onsite archaeological monitoring, identification of any cultural deposits, and will initiate notification of the appropriate individuals as outlined in this ATP. The CRM must have the following minimum qualifications:

- More than one-year experience in cultural resources monitoring in southern California.
- Have a bachelor's degree in Archaeology, History, Anthropology, or other closely related field with at least one year of mitigation monitoring under the supervision of a qualified PI or MPM.
- Have participated in surveys, excavations, and construction monitoring projects in the region.
- Have experience with site identification and detailed site mapping and documentation.

**Specific Duties and Roles**

All cultural resource-related tasks discussed in the ATP will be performed under the supervision of the PI. The PI will ensure that the project, at all phases, is in full regulatory compliance with the MMRP and all applicable laws. It will be the responsibility of the PI to inform LAWA of any cultural discoveries or instances of non-compliance.

All archaeological monitoring will be conducted under the direction of the designated PI through the MPM. On a daily basis, the MPM will oversee and manage the project's monitoring and compliance with the ATP, as well as all applicable laws. They will ensure that the archaeological monitoring, as well as training of construction crews, is implemented per requirements.

The CRM will be present during grading and excavation activities of sites with potential value as outlined in this ATP; if discoveries are made during monitoring, the applicable procedures outlined in the ATP will be followed.

All testing and data recovery will be performed under the supervision of the PI, with on-site activities coordinated and supervised by a MPM. While testing and data recovery occur, the MPM will also ensure that standard archaeological procedures are followed as outlined in this ATP.

### *5.1.2 Consultation with Agencies*

Prior to the LAX Master Plan grading and construction, LAWA will designate the qualified consulting archaeologist to implement the ATP. If any cultural discoveries are made during monitoring, the consulting archaeologist will contact LAWA. LAWA will then be responsible for notifying the appropriate agencies of the discovery. The appropriate agencies potentially include the Los Angeles County Coroner (in the case of human remains), FAA, SHPO, and the City and County of Los Angeles. Upon the discovery of a *prehistoric* archaeological resource or Native American remains, LAWA, through the consulting archaeologist, will also notify the NAHC. A local Native American representative may be contacted regarding the remains based on guidance from the NAHC.

## 5.2 Archaeological Monitoring Procedures

The ATP ensures that known cultural resources and any previously unidentified resources located within the APE that are exposed during ground-disturbing construction activities for the LAX Master Plan are treated in compliance with Section 106 of the National Historic Preservation Act, CEQA, and the environmental guidelines of local agencies regarding the treatment of unexpected archaeological discoveries. The plan describes procedures for determining where and when monitoring should take place, as well as the procedures that should be followed in order to ensure proper treatment of archaeological resources. Monitoring for cultural resources is specifically called for in Mitigation Measure MM-HA-5 of the LAX Master Plan MMRP.

All areas within the APE of potential archaeological significance will be under the direction of a professional archaeologist as defined by the qualifications stated in Section 5.1.1 of this ATP. The archaeological monitor should be supplied with a construction schedule and plans prior to the initiation of ground-disturbing activities. Based on past work and investigations, not all areas of the APE are considered likely to yield additional subsurface deposits. In order that the consulting archaeologist is aware of the areas with the most potential for unexpected archaeological discoveries, it is recommended that the results of all previous archaeological investigations within the APE be reviewed, including archaeological record search information gathered from the local California Historical Resources Information System (South Central Coastal Information Center at California State University, Fullerton).

The MMRP, Mitigation Measure MM-HA-5 states that any grading and excavation activities within the LAX Master Plan that have not been identified as containing redeposited fill material or having been previously disturbed shall be monitored by a qualified archaeologist. Initial determinations of those areas that require archaeological monitoring should be made based on construction plans prior to the start of grading and construction activities. The known depth of redeposited fill or disturbance versus the depth of the planned grading activities are crucial factors in the determination of the areas in which archaeological monitoring is required. The identification of those areas that should be subjected to archaeological monitoring (e.g., those

areas not identified as containing redeposited fill material or having been previously disturbed) will be made by the on-site CRM, and will be made in consultation with the appropriate LAWA representative, construction supervisor, and/or geologist. Monitoring in areas with the potential for subsurface archaeological deposits will be monitored at a frequency to be determined by the consulting archaeologist. Depending on the construction schedule, more than one monitor may be required in some areas in order to ensure the protection of unexpected archaeological discoveries. Decisions regarding increased numbers of CRMs will be discussed with the construction supervisor and the LAWA representative.

Where archaeological sites are expected, the archaeological monitor will determine if the deposit is an unrecorded cultural resource. In addition to protecting as yet undiscovered archaeological deposits, the archaeological monitor will ensure that the previously identified significant cultural resource CA-LAN-2345 is avoided and protected. If potentially significant resources are identified, the monitoring archaeologist shall be empowered to halt construction activities within 25 to 50 feet of the identified resource. If previously unknown cultural deposits are identified during the construction activity, the processes described below should be followed.

Procedures for archaeological monitoring in the APE for the LAX Master Plan project are as follows:

1) Excavation and any other ground-disturbing activity within 150 feet of site CA-LAN-2345 will be monitored at all times.

2) Excavation and any other ground-disturbing activity in areas designated as having a high potential for subsurface archaeological deposits will be monitored full time by the archaeologist. Areas having a high potential for archaeological deposits will include areas near previously identified resources, as well as those areas determined to contain undisturbed, native soils. As the potential for unidentified resources changes, the monitor has the authority to change the monitoring requirement to part-time observation or periodic spot checking. The consulting archaeologist must have the responsibility of implementing the mitigation measures stipulating the preservation or protection of newly discovered archaeological sites. Only after these areas have been viewed during grading, and these observations verify the reduced potential for cultural resources corresponding to the level of disturbances encountered, can the monitoring requirements be relaxed. To ensure that the mitigation monitoring program complies with various agencies' requirements and the stated conditions of the MMRP, the consulting archaeologist must have the final decision regarding the time, duration, and intensity of monitoring activities.

3) Construction excavation and any other ground-disturbing activity in areas designated as potentially containing redeposited fill or having been disturbed to an unknown

depth will be monitored periodically or suspended entirely as determined by the consulting archaeologist and LAWA.

4) The archaeological monitor(s) shall follow the safety and access protocol defined by LAWA for the LAX Master Plan construction project. All monitoring activity will be reported on a daily basis by the completion of a daily record form, such as that presented in Appendix D (LAWA Cultural Resources Monitoring Record). Copies of monitoring record forms will be submitted to LAWA on a weekly basis.

5) The number of monitors on any given day will be based on the level of effort proposed for excavation and other ground-disturbing activities. Any activity in areas designated as having a high potential for subsurface archaeological deposits are more likely to require additional archaeological monitors.

6) Monitor(s) will examine all exposed soil profiles for archaeological deposits as safety conditions permit. The archaeological monitor(s) shall also have access to all geological soils testing in order to track the documented locations and depths of fill soil.

7) If cultural resources of any kind are discovered by the archaeological monitor or by construction personnel, the construction supervisor should be notified immediately and all construction activity diverted from the immediate vicinity (25 to 50 feet). The find should be reported to LAWA and the MPM so that the appropriate treatment measures can be planned and implemented. Every effort should be made to ensure these procedures are conducted in a timely and efficient manner, so as to reduce impacts to the construction schedule.

8) If the consulting archaeologist determines that excavations are needed in order to evaluate the significant of the identified cultural deposit, the site should be fenced or flagged off and construction activity diverted away from the area. The fencing or flagging will serve to mark site boundaries and to keep construction equipment away from the archaeological deposit. Fencing or flagging procedures are discussed below in Section 5.2.1 *Identification of Resources*.

9) All monitors working at the site shall be properly attired with construction vests, hard hats, construction boots, and long pants at all times within the construction zones.

Native American Monitoring Protocols

As set forth in Mitigation Measure MM-HA-5, upon the discovery of an archaeological resource or Native American remains, LAWA, with the assistance of the consulting archaeologist, will contact NAHC. Based on the recommendations from NAHC, LAWA may retain a Native American monitor from a list of suitable candidates supplied by NAHC. Further information regarding the treatment of human remains is discussed in Section 5.7.

Identification of Resources

In the event that cultural resources are discovered by the archaeological monitor, construction activity will be immediately diverted away from the area. The area, including a buffer zone around the deposit, should be fenced or flagged off, and the area avoided by all construction activity until released for construction by the consulting archaeologist. Because the boundaries of the deposit may not be clearly established at this point in the discovery process, the buffer zone around the discovered deposit should be at least 25 to 50 feet. Once the boundaries of the deposit have been established, and should further excavations be required, the fenced or flagged area should include a buffer zone of at least 10 to 15 feet wide around the established boundaries of the archaeological site. See *Site Security* below for additional discussion.

Any and all cultural resources encountered must be recorded on California Historic Resources Inventory forms (DPR Form 523) and mapped on the required scale maps, following the guidelines of the *Instructions for Recording Historic Resources* (Office of Historic Preservation 1995). Once completed, these forms will be submitted to the South Central Coastal Information Center located at California State University, Fullerton.

The procedures for all discoveries, *except* when human remains are involved, include the following:

1) The artifact is examined to ascertain whether or not it is an isolated find or part of a newly discovered site.
2) If it is isolated then its location is marked on an appropriate map, field notes are made, and the object is collected and marked with a collection or sample number.
3) If the artifact is found in relation to other artifacts then the area where the find occurred is marked with flagging tape and protected from project-related effects by informing the construction supervisor and the MPM of the find. LAWA will be notified by the consulting archaeologist and/or construction supervisor.
4) If the archaeological find is discovered by construction personnel, the area should be flagged off, avoided by construction equipment, and the archaeological monitor or consulting archaeologist notified immediately. The

consulting archaeologist will mobilize resources to the area of the find for significance evaluation pursuant to applicable federal, state, and local criteria.

5) Section 5.7 of this ATP discusses in detail the procedures regarding the discovery of human remains.

Site Security

As stated above, in order to ensure the protection of any archaeological deposits identified within the APE during the monitoring process, all construction activity should be immediately discontinued in the vicinity of the deposit. The area should be fenced or flagged as soon as possible following the discovery. Until the boundaries of the resource can be established with testing procedures, a 25- to 50-foot buffer zone around the identified deposit will be fenced or flagged off. If a 25- to 50-foot buffer zone is not available due to construction activities, a mutually agreeable buffer zone will be fenced or flagged. Subsequent to the identification of site boundaries, the fenced or flagged buffer surrounding the resource can be reduced to a 10- to 15-foot buffer zone, should the additional area be required by construction crews. All fencing or flagging of archaeological deposits should be monitored by a qualified archaeologist. Temporary fencing or flagging should remain in place until the resource has been released by the Principle Investigator of the consulting archaeological firm, in consultation with LAWA (see Section 5.3.2 below).

The above description of archaeological site protection procedures applies to resources identified during archaeological monitoring within the APE. Routine fence construction along the limits of the APE is not expected to impact known archaeological sites and will not be monitored by archaeologists.

## 5.3 Excavation, Recovery, and Laboratory Analysis

This section describes the implementation of Mitigation Measure MM-HA-6, *Excavation and Recovery*, and includes a discussion of laboratory analysis.

### *5.3.1 Assessment of Significance*

The goal of site assessment is to determine whether a resource is significant according to CEQA guidelines and/or eligible for inclusion in a federal, state, or local register of historic resources. The results of this investigation will determine whether further mitigation measures, such as avoidance or data recovery investigations, will be required for any given site. Since these resources will have been recovered during the construction monitoring process, the significance assessment of discovered resources should be conducted in an efficient and rapid manner. Until sites are subjected to significance assessment, all identified resources are considered *not evaluated for significance*. Once the consulting archaeologist has tested a site for significance, a recommendation of significance will be submitted to LAWA and SHPO. If the deposits were found to be significant, mitigation measures would be required. Determination of

the appropriate mitigation measures will result from consultation between the consulting archaeologist, LAWA and SHPO.

The goal of the site assessment process is to conduct a sufficient investigation of the resource so as to determine the site's significance in a time efficient manner due to the nature of the proposed construction activities. The significance of a resource is based on a variety of criteria, including the potential of the site to contribute to research issues (see Appendix C) and site integrity (see Section 2.2). Steps typically involved in a testing and evaluation investigation include surface recordation (and/or collection of artifacts), shovel testing, and limited test unit excavation.

Surface Recordation

For sites located within project boundaries, testing for significance is initiated with the establishment of a datum. From each site datum, all surface artifacts and features are located, using range and azimuth readings. All features are recorded, thoroughly documented, and mapped. Documentation consists of measuring all aspects of the features, as well as the completion of scaled illustrations and complete photographic documentation. In most cases, all surface artifacts are collected from the site(s) tested. In situations where a dense surface scatter is present, such as on a quarry site or extensive historic trash scatter, a sample of the surface artifact scatter is collected. The surface collection procedure consists of mapping each recovery location, collecting the artifacts, and securing the artifacts in a bag that is labeled with the provenience information. All of the recovered surface artifacts are returned to the consultant's laboratory for analysis.

Shovel Test Excavations

A series of shovel test pits (STPs) are excavated at each site(s) in order to determine the presence of any subsurface deposits, as well as characterize the horizontal and vertical extent of that deposit. The shovel tests should measure a minimum of 30 by 30 centimeters in size, are excavated in 10-centimeter increments, and extend to a minimum of 30 centimeters in depth. The excavations are continued to a depth that surpass the level of artifact or ecofact recovery and include at least one culturally sterile level. All soil is sifted through one-eighth-inch mesh hardware cloth, and all recovered artifacts are placed in containers labeled with the provenience information. Record sheets, describing the soil types revealed and the materials recovered by depth, are completed after the excavation of each shovel test level. The locations and number of shovel tests excavated at the site(s) will vary depending on topography and the extent of the cultural deposit. Generally, the distribution of surface artifacts is used to determine the initial placement of the shovel test excavations. All of the artifacts recovered from this testing procedure are returned to the consultant's laboratory for analysis.

Test Unit Excavations

During a testing and evaluation investigation, the results from the test unit excavations provide the quantitative and qualitative information concerning the subsurface content of a site

that is required in order to sufficiently determine site significance. If the presence of a subsurface deposit has been determined, at least one standard test unit excavation is conducted at each site. The quantity and locations of the test units excavated at each site will vary according to total subsurface extent and number, variety and depth of artifacts recovered. Placement of units is based either on the presence of positive shovel tests or the surface elements of the site (artifacts or quarry areas).

Each test unit measures one meter square and is typically oriented to true north, unless geologic features make it impossible. Vertical control within the test units is maintained by excavating in centimeter levels, and all of the units are excavated to a culturally sterile level unless bedrock is encountered before that depth was achieved. The units are excavated using the contour method. Hand tools are used, and all removed soil is sifted through one-eighth-inch mesh hardware cloth. All of the artifacts recovered from the unit levels are placed in bags, labeled with the provenience information, and returned to the consultant's laboratory for analysis. Unit level record sheets, describing the soil types revealed and the materials recovered, are completed after the excavation of each test unit level. All subsurface features exposed during test unit excavations are thoroughly documented. At the completion of the excavations, the test unit profiles are photographed and sketched, and the units are then backfilled. The data obtained from the test units is subsequently subjected to both standard and specialized analysis to evaluate the significance of the cultural deposits.

### *5.3.2 Data Recovery*

The goal of the data recovery process is the recovery, analysis, and dissemination of the archaeological information stored within the portion of the site that will be compromised by an undertaking; the recovery is focused specifically on the data that supported the evaluation of the resource as significant. Data recovery excavations usually focus on test unit excavations, although the specific techniques employed during a data recovery effort might include any of the above-mentioned procedures, depending on the nature of the site itself and the extent of the previous investigations. For example, if site boundaries were insufficiently determined during the testing phase, shovel tests may be employed during a data recovery investigation in order to more reliably determine the boundaries prior to the initiation of test unit excavations. Generally, the data recovery phase of investigation is a more thorough and more time-intensive collection of data, compared to that of significance testing.

The data recovery program is intended to provide a sufficient sample of the archaeological site to exhaust the research potential of the resource such that all regulatory issues are satisfied and all research objectives are achieved. The data recovery program focuses on the gathering of information until the recovery effort becomes redundant, and the potential to discover new or unique information or features is low. The actual sample size recovered from a site will depend upon the volume and nature of the subsurface deposits. An estimated sample value, based on the results of the shovel tests, is established prior to the initiation of the data

recovery excavations. However, the sample size becomes redefined during the excavation program and the sample size is adjusted based upon recovery redundancy.

A phased sampling program is recommended during data recovery investigations for the LAX Master Plan project. In this approach, an initial (Phase 1) coverage of excavation units across the site is used to index the entire subsurface area and identify those portions within the significant site that contain deposits indicating more intense prehistoric use or specialized work areas. Typically, the Phase 1 series of hand-excavated test units will result in the examination of between a 3% and 6% sample of the entire area of the subsurface deposit. Following this indexing process, a second phase (Phase 2) of sampling units is used to focus data recovery on the areas of greater research potential, incorporating an additional 2% to 4% of the site sample, although this percentage varies depending on the significance of the exposed deposits. Such an approach ensures that sampling is focused in those areas with the most significant subsurface cultural deposits and that the subsurface deposit is sampled in a systematic manner. Phase 2 units are placed based on the results of the Phase 1 excavations and focus on areas of increased research potential: increased artifact and ecofact recovery, the presence of diagnostic artifacts, features, and deposits that appear to have been minimally disturbed by border activities and erosion. The placement of Phase 3 units is discretionary, depending on the recovery and exposure of any highly significant deposits and/or subsurface features. Phase 3 excavations usually involved the expansion of specific excavations into block excavations in order to expose a buried deposit or feature. Overall, data recovery should recover the appropriate amount of information from the archaeological deposits to address the relevant research issues.

Excavation of the test units during a data recovery is conducted in the same manner discussed above for the testing phase. All excavated units are mapped, profiled and photographed. The overall sample size collected during the data recovery program will vary based on a number of variables specifically related to the research potential of the resource. Again, the goal of the investigation is to recover a sufficient sample size such that the remaining existence of the site (the recovered material) reaches a state of redundancy. All recovered materials should be returned to the consultant's laboratory for cataloging and analysis.

Features and Specialized Sampling During Data Recovery Investigations

During data recovery, if subsurface cultural features are exposed during test unit excavations, additional test units may be needed to fully expose the feature. All subsurface features encountered are thoroughly documented. Any datable materials found in association with discovered features will be collected for radiocarbon dating. In addition, several bulk soil samples will be collected and processed; these samples could be used not only to date the deposits should charcoal not be present, but also provide potential flotation samples for the recovery of charred plant remains. Bulk soil samples should be collected from all features. In addition, columns of bulk soil samples should be collected from at least 2% of the excavated

units across the site. Column samples should consist of the collection of a one-gallon bag of soil from each 10-centimeter level from test unit walls.

In addition, during hand excavation, special attention should be given to the identification of lithic tools found *in situ* and their potential for residue analysis. Such tools are bagged separately and a sample of the surrounding soil is collected to serve as a control sample, should the artifact be chosen for pollen or blood residue analyses. Artifacts from which positive residue results have resulted include scrapers, knives, retouched flakes, and ground stone tools.

### *5.3.3 Releasing Resources for Construction*

Due to the time-sensitive nature of project construction, the completion of a final technical report will not be completed before construction will need to resume within the area of an archaeological discovery. The decision regarding whether sufficient excavation and sampling have been conducted on an identified resource will be made by the Principle Investigator of the consulting archaeological firm, in consultation with LAWA. Again, due to the time constraints surrounding project construction, every effort should be made to complete testing or data recovery of archaeological resources as quickly as possible. The area will be avoided by construction crews until the consulting archaeologist indicates in writing that the site area avoidance fencing or flagging can be removed. At that point, construction may resume in the area.

### *5.3.4 Laboratory Analysis*

Should subsurface archaeological deposits be discovered during monitoring of the construction activity, laboratory analysis will be required. The degree of analysis conducted on the recovered artifacts will be dependent on the level of the investigation (testing versus data recovery). If the artifacts are recovered during the data recovery of a cultural property, the form of analysis will be guided by the research questions proposed in this ATP. Every effort should be made to compile the maximum amount of information regarding the artifacts in order to contribute the most appropriate information toward the research potential of the resource.

All artifacts recovered from the monitoring and excavations conducted as part of the LAX Master Plan MMRP will be returned to a laboratory for processing. Although initial sorting of artifacts might be conducted in the field, the final processing of all artifacts will take place in an offsite laboratory. All of the materials recovered from the field excavations will be subjected to standard laboratory analyses. Artifacts may be washed, if necessary, but only to permit proper identification. Particularly in the case of prehistoric resources, artifacts should be left unwashed whenever possible for potential residue analysis later. The artifacts should be sorted by provenience, material, and functional type. All artifacts recovered, prehistoric and historic, will be analyzed to determine if they are temporally diagnostic. The cataloging of artifacts will include all data necessary for the analysis of the archaeological site such as provenience, materials, condition, and quantification. The artifacts should be quantified in such

a way as to allow the assemblage to be compared to other resources from the region; usually this includes counts and/or weights.

In keeping with generally accepted archaeological procedures utilized in the southern California region, the specimens collected from the site should be categorized according to a set of identification criteria including artifact type, specific artifact attributes, count, material type, condition, weight (tools only), provenience, and the assignment of a unique artifact identification number. The cataloging process for the recovered specimens will utilize a classification system commonly employed in southern California. One of the goals of the cataloging process will be to characterize as well as possible the range of activities conducted at each investigated site. The lithic artifacts recovered from the project should be inspected for evidence of use wear, retouch, patination, or stains. The level of analysis of lithic artifacts recovered from a data recovery investigation is usually intensified. If the laboratory analysis is being conducted as part of a data recovery investigation, a sample of the recovered lithic production waste should be subjected to detailed flake analysis to determine lithic use patterns at the site.

Prehistoric pottery fragments recovered from sites should be analyzed for decorations (incised, punctuated, drilled, engraved, brushed, painted, etc.), temper, evidence of slipped processing, presence or absence of residue, burning, portion of vessel (rim, base, or body), and when possible, for vessel type. Microscopic analysis of residues identified on prehistoric pottery fragments are occasionally conducted, if such analysis would add significantly to the value of the investigation

If encountered, non-lithic materials, such as ecofacts (shell, bone), should be subjected to specialized analyses including marine shell species identification and faunal analysis. Data recovery efforts should include more detailed analysis should the recovered collection allow such investigations. These might include radiocarbon dating, obsidian sourcing and hydration, pollen and blood residue analysis, and flotation and analysis of feature fill material. Should a significant feature that retains integrity be encountered, the laboratory analysis of a column sample from that feature should include flotation procedures to remove seeds and other microfaunal remains from the soil, followed by the screening of the remainder through a 1/16-inch mesh sieve. All laboratory analysis should be conducted by qualified specialists.

Appropriate specialized laboratory studies are briefly described below:

(a) *Marine Shell Analysis*

Any cultural marine shell recovered from data recovery investigations should be quantified and identified to the lowest taxonomic (scientific classification) category. If the shell collection is unexpectedly large, a sample of the collection could be selected for detailed species identification in lieu of the entire assemblage; at a minimum, the remaining marine shell (not selected for detailed identification) should be cataloged and quantified. The exact size of the sample would be dependant on the amount of marine shell recovered.

(b) *Faunal Analyses*

The minimum data recorded will include sex, age, degree of epiphyseal fusion in long bones, and modification to the bones, such as carnivore and rodent gnawing, chopping and cutting marks resulting from butchery practices, burning, and fragment size for each element. Individual bones should be quantified. Degree of fusion of the long bone epiphyses can allow for distinction between juveniles and adult individuals. All data should be entered into a database, which will facilitate quantitative and statistical analyses. From these raw data, measures of species composition should be generated using zooarchaeological quantification methods. The proportion of the bone assemblage subjected to detailed analysis will depend on the quantity of bone recovered. Although sampling may be necessary, unidentified bone should still be quantified and cataloged by provenience. Faunal material should be analyzed by a faunal specialist, using comparative faunal collections. Should they be recovered, analysis of fish otoliths should also be conducted.

(c) *Radiocarbon Dating*

This dating technique should be attempted during data recovery investigations in order to place the resources within a temporal framework. The radiocarbon dating will be useful in conjunction with the stratigraphic recovery of cultural materials to establish the chronology of the site. Therefore, the collection of samples for dating should be based on the presence of diagnostic artifacts, features, or geological strata delineations. The desired material for radiocarbon dating is that of charcoal, a material that is not always present in archaeological deposits. Should the possibility arise that insufficient charcoal is recovered, bulk soil samples or shell should be considered for dating. All samples for radiocarbon dating should be submitted to an appropriate laboratory for analysis.

(d) *Blood Residue, Pollen, and Phytolith Studies*

Organic residue on lithic artifacts may be useful in the determination of the species of animals and plants represented by the residue. However, the use of such studies is necessarily dependent upon the identification of residues on artifacts—the potential presence of a testable residue must be made prior to washing, or the residue samples will be lost. Therefore, lithic precision and ground stone tools found *in situ* during excavation are the best candidates for residue studies. These artifacts should be bagged separately and returned to the laboratory for possible analysis. A control sample of soil from the area adjacent to the artifact should also be collected. All material for blood residue and pollen analyses will be submitted to an appropriate laboratory.

(e) *Obsidian Hydration and Sourcing*

A sample of the obsidian recovered from data recovery investigations should be submitted to a specialist to determine the source of the lithic material. The obsidian should also be analyzed to produce hydration readings, which may then be used to provide relative dates for the use of the artifacts. Obsidian analyses are useful in the determination of trade relationships, as well as another aid in determining the age of a deposit.

(f) *Macroscopic Feature Fill Analysis*

Should intact prehistoric subsurface features be encountered, a sample of the fill of said feature should be collected for macroscopic floral and faunal analysis. Such analysis, conducted by the appropriate laboratory, could identify not only the contents of the feature, but possibly also how the feature was used by the prehistoric occupants.

Generally, historic artifact analysis should follow the basic guidelines as the prehistoric analysis. Artifacts should be cleaned when it is necessary to make identification of details possible. All artifacts should be cataloged by material, artifact type, and any individual attributes that would aid in their identification. Artifacts sharing the same provenience, material, and color characteristics, but which are fragmentary, are often assigned a single catalog number. Each artifact or ecofact should be assigned, where possible, to a specific functional category of use; typical functional categories include:

Domestic Expendable
Domestic Non-Expendable
Domestic General
Construction/Maintenance
Food
Personal
Recreation
Farming/Ranching
Military
Industrial/Commercial

Every effort should be made to identify temporally diagnostic historic artifacts, and to identify specifics relating to manufacturing techniques (such as with glass bottles and jars), maker's marks, and product manufacturing dates. These elements are often critical in the determination of temporal deposition and can help to determine the origin of the historic deposits.

## 5.4 Administration

This section describes the implementation of Mitigation Measure MM-HA-7, *Administration*. Prior to grading activity, all grading and construction plans will be clearly marked with the projected level of archaeological monitoring, although those areas might change based on the assessment of the on-site archaeological monitor (see Section 5.2). The potential for the discovery of subsurface archaeological deposits in areas where an archaeological monitor is not present is a possible outcome of the ground-disturbing process for a large-scale project such as the LAX Master Plan. The prioritizing of those areas most likely to yield subsurface deposits, such as grading in native soils, is one way to mitigate this potential. An additional way to ensure the protection of previously undiscovered cultural resources and to comply with federal, state, and local regulations regarding the protection of such resources, is the training of construction crews in the basic identification of archaeological deposits and the correct procedures for notifying the relevant individuals should such a discovery occur.

Construction personnel associated with earth moving equipment, drilling, grading, and excavating, will be provided with basic training conducted by the consulting archaeologist. Issues that will be included in the basic training will be geared toward training the applicable construction crews in the identification of archaeological deposits. Training will include written notification of the restrictions regarding disturbance and/or removal of any portion of archaeological deposits and the procedures to follow should a resource be identified. An outline of typical topics covered during this basic training is provided below.

- General Information
  - Cultural history of the project area.
  - Project overview, including the relationship of LAWA development process and cultural resource compliance issues.

- Cultural Resources Procedures
  - Training in the potential resources that may be encountered, both prehistoric and historic.
  - Duties of the archaeological monitors.
  - Procedures to be employed upon the discovery of cultural resources during construction, including the immediate termination of ground-disturbing activity in the area of the resource.
    - Cultural resource evaluation and treatment process.

### 5.5 Archaeological/Cultural Monitor Report

A standard data recovery report will be prepared at the conclusion of all archeological field work at specific construction projects related to implementation of the LAX Master Plan. The report will be prepared after all grading and excavation activities in a specific area of known or identified archaeological resources has been completed. The archaeological consultant retained by LAWA will prepare the summary report. The report will be prepared pursuant to Mitigation Measure MM-HA-8 of the LAX Master Plan MMRP. The report prepared will adhere to the guidelines set forth by the Office of Historic Preservation for the Archaeological Research Management Reports (ARMR: *Recommended Contents and Format,* Office of Historic Preservation, 1989).

The report shall include the results of the fieldwork and all appropriate laboratory and analytical studies that were performed in conjunction with the excavation. The comprehensive technical report will describe the goals of the project, the methods utilized, and the analysis and interpretations that resulted from the archeological investigations during grading and earthwork in support of the LAX Master Plan. The report will be submitted in draft form to the FAA, LAWA, and City of Los Angeles-Cultural Affairs Department. LAWA and the City of Los Angeles representatives will have 30 days to comment on the report. All comments and concerns shall be addressed in a final report issued within 30 days of receipt of city comments. A copy of the final report will be submitted to the South Central Coastal Information Center at California State University, Fullerton.

### 5.6 Artifact Curation

Copies of all project related notes, records, photographs, and collected archaeological materials (except those repatriated under California State Burial Law) will be curated at a repository meeting federal and state standards, pursuant to Mitigation Measure MM-HA-9 of the LAX Master Plan MMRP. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Federal Code of Regulations. The project related material will be curated in accordance with The State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*.

### 5.7 Archaeological Notification: Discovery and Treatment of Human Remains

This section describes the implementation of Mitigation Measure, MM-HA-10, *Archaeological Notification.* Although no evidence of human remains have been identified within the APE, based on record search results and survey and testing investigations of known archaeological sites, the potential for their discovery does exit. Any human remains discovered during construction will be protected and treated in a respectful manner.

In the event that human burials are encountered during excavations or grading activities, standard procedures for such discoveries will be implemented, including notification of the Los Angeles County Coroner's Office, the City of Los Angeles, and the Native American Heritage Commission in Sacramento. Archaeological field work or grading will cease

immediately in any area reasonably suspected to overlie adjacent human remains. The area will be cordoned off and the Los Angeles County Coroner will be notified. If the coroner recognizes the remains to be those of a Native American, or has reason to believe they are those of a Native American, the proper authorities will be notified. The proper authorities include LAWA, the NAHC, and, as directed by the NAHC, the Most Likely Native American Descendent. These consultations will be made in order to determine a preferred course of action. The Most Likely Native American Descendent may make recommendations for means of treating the human remains, and the burial will be treated accordingly. These procedures are in compliance with those outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code, as well as the steps outlined in Section 15064.5(e) of the CEQA Guidelines. Should a situation arise in which the NAHC is unable to identify a most likely descendent or the most likely descendent fails to make a recommendation, provisions are provided in Section 15064.5(e) of the CEQA Guidelines.

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# APPENDIX A

# LAX MASTER PLAN ALTERNATIVE D
# MITIGATION MONITORING & REPORTING PROGRAM

| | Master Plan Commitments/ Mitigation Measures | Potential Impact Being Addressed | Timing of Implementation | Monitoring Frequency | Actions Indicating Compliance |
|---|---|---|---|---|---|
| | ***Historical / Architectural and Archaeological / Cultural Resources*** | | | | |
| **HR-1**<br><br>**Monitoring Agency:**<br>**LAWA** | **Preservation of Historic Resources.** In implementing the LAX Plan and conducting on going activities associated with operation of the airport, LAWA will support the preservation of identified significant historic/architectural resources through careful review of design and development adjacent to those resources and by undertaking any modifications to those resources in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Additionally, where sound insulation is proposed for identified significant historic/architectural resources under the Aircraft Noise Mitigation Program, LAWA will ensure that methods are developed with the approval of a qualified architectural historian or historic architect, who meets the Secretary of the Interior's Professional Qualifications Standards, in compliance with the Secretary of the Interior's Standards for Rehabilitation. | Avoiding loss of significant historical resources, and their historic character, identified within the Area of Potential Effects (APE) | Prior to approval of final plans for demolition of buildings within the International Airport Industrial District associated with the GTC-ITC Roadways and Century Bridge, and associated open-space area (for preservation component); In conjunction with ongoing ANMP and prior to approval of sound proofing plan for affected historic resources (for sound insulation component) | Once, at sign-off of demolition plan (for preservation component); Once, at sign-off of soundproofing plan (for sound insulation component) | Plans signed off by qualified architectural historian or historic architect |
| **MM-HA-1**<br><br>**Monitoring Agency:**<br>**LAWA** | **Historic American Buildings Survey (HABS) Document.** For historic properties eligible at the federal, state or local levels that are proposed for demolition or partial demolition (i.e., the International Airport Industrial District), a Historic American Buildings Survey (HABS) document shall be prepared by LAWA in accordance with the Secretary of the Interior's Guidelines for Architectural and Engineering Documentation Standards. The level of documentation (I, II, III) shall be determined by the National Park Service (NPS). Documentation shall adequately explicate and illustrate what is significant or valuable about each of the historic resources. Documentation data shall be collected prior to commencement of demolition of the buildings. | Loss of important historical resources from demolition | Prior to issuance of demolition permits for affected historical resources | Twice: Once, upon review of draft HABS document by NPS and once, upon approval of final HABS document | Acceptance letter for final HABS document from NPS |

# LAX MASTER PLAN ALTERNATIVE D
# MITIGATION MONITORING & REPORTING PROGRAM

| | Master Plan Commitments/ Mitigation Measures | Potential Impact Being Addressed | Timing of Implementation | Monitoring Frequency | Actions Indicating Compliance |
|---|---|---|---|---|---|
| **MM-HA-1** | (Cont'd)<br>Archival copies of the recordation document shall be submitted to the National Park Service, Library of Congress, and the California Office of Historic Preservation. Non-archival copies of the document shall be distributed to the City of Los Angeles Planning Department, City of Los Angeles Cultural Affairs Department, Los Angeles Public Library (main branch), Los Angeles Conservancy, and LAWA's Public Relations Division. | | | | |
| **MM-HA-2**<br><br>**Monitoring Agency:**<br>**LAWA** | **Historic Educational Materials.** For the significant historic resources proposed for demolition or partial demolition, educational materials suitable for the general public, secondary school use, and/or aviation historians and enthusiasts shall be designed with the assistance of a qualified historic preservation professional and implemented by LAWA. The purpose of these materials shall be to present in two- or three-dimensional format, the history of the airport and surrounding area. Such materials shall include, but not be limited to, a video/film documentary, curriculum program and teacher's guide, architectural models, and a historical brochure or pamphlet. These materials shall be made available via LAWA's public relations department to the general public, local community school history programs, and related interest groups. | Demolition of historical resources | Initiate development of educational materials prior to demolition of affected historical resources. Complete educational materials no later than one year after demolition of affected historical resources | Once, prior to demolition of affected historical resources | Approval of educational materials by LAWA |
| **MM-HA-4**<br><br>**Monitoring Agency:**<br>**LAWA** | **Discovery.** The FAA shall prepare an archaeological treatment plan (ATP), in consultation with SHPO, that ensures the long-term protection and proper treatment of those unexpected archaeological discoveries of federal, state, and/or local significance found within the APE of the selected alternative. The ATP shall include a monitoring plan, research design, and data recovery plan. The ATP shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation; California Office of Historic Preservation's (OHP) *Archaeological Resources Management Report*; *Recommended Contents and Format* (1989), | Loss or destruction of important archaeological resources | Prior to issuance of any excavation and grading permits associated with the first Master Plan project | Once, at approval of ATP | Approval of ATP by LAWA |

# LAX MASTER PLAN ALTERNATIVE D
# MITIGATION MONITORING & REPORTING PROGRAM

| | Master Plan Commitments/ Mitigation Measures | Potential Impact Being Addressed | Timing of Implementation | Monitoring Frequency | Actions Indicating Compliance |
|---|---|---|---|---|---|
| **MM-HA-4** | (Cont'd)<br>and the *Guidelines for Archaeological Research Design* (1991); and shall also take into account the ACHP's publication *Treatment of Archaeological Properties: A Handbook.* The ATP shall also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA. In addition, those steps outlined in Section 21083.2(i) of CEQA and Section 15064.5(f) of the CEQA Guidelines shall be implemented, as necessary. | | | | |
| **MM-HA-5**<br><br>**Monitoring Agency:**<br>**LAWA** | **Monitoring.** Any grading and excavation activities within LAX proper or the acquisition areas that have not been identified as containing redeposited fill material or having been previously disturbed shall be monitored by a qualified archaeologist. The archaeologist shall be retained by LAWA and shall meet the Secretary of the Interior's Professional Qualifications Standards. The project archaeologist shall be empowered to halt construction activities in the immediate area if potentially significant resources are identified. Test excavations may be necessary to reveal whether such findings are significant or insignificant. In the event of notification by the project archaeologist that a potentially significant or unique archaeological/cultural find has been unearthed, LAWA shall be notified and grading operations shall cease immediately in the affected area until the geographic extent and scientific value of the resource can be reasonably verified. Upon discovery of an archaeological resource or Native American remains, LAWA shall retain a Native American monitor from a list of suitable candidates obtained from the Native American Heritage Commission. | Loss or destruction of important archaeological resources | Retain archaeologist prior to issuance of excavation and grading permits for first Master Plan project, with continued monitoring efforts in accordance with the ATP | Once, upon retention of archaeologist and on-going during excavation and grading activities, as identified in ATP | Retention of archaeologist and filing of periodic monitoring reports with LAWA, as stipulated in the ATP |
| **MM-HA-6** | **Excavation and Recovery.** Any excavation and recovery of identified resources (features) shall be performed using standard | Loss or destruction of important | Upon discovery of potential | On-going during excavation and | Filing of appropriate reports (i.e. |

# LAX MASTER PLAN ALTERNATIVE D
# MITIGATION MONITORING & REPORTING PROGRAM

| | Master Plan Commitments/ Mitigation Measures | Potential Impact Being Addressed | Timing of Implementation | Monitoring Frequency | Actions Indicating Compliance |
|---|---|---|---|---|---|
| **MM-HA-6**<br>**Monitoring Agency:**<br>**LAWA** | (Cont'd)<br>archaeological techniques and the requirements stipulated in the ATP. Any excavations, testing, and/or recovery of resources shall be conducted by a qualified archaeologist selected by LAWA. | archaeological resources | archaeological resources by qualified archaeologist | grading activities as identified in ATP | excavation/recovery report) with LAWA by project archaeologist pursuant to ATP. If no resources are found, a report indicating as much should be filed |
| **MM-HA-7**<br>**Monitoring Agency:**<br>**LAWA** | **Administration.** Where known resources are present, all grading and construction plans shall be clearly imprinted with all of the archaeological/cultural mitigation measures. All site workers shall be informed in writing by the on-site archaeologist of the restrictions regarding disturbance and removal as well as procedures to follow should a resource deposit be detected. | Loss or destruction of important archaeological resources | Prior to approval of excavation and grading plans (for MM/MPC imprint component); Prior to excavation and grading activities pursuant to ATP (for on-site training component) | Once, upon approval of excavation and grading plans (for MM/MPC imprint component); Prior to initiation of excavation and grading activities, and with construction staff change-outs, pursuant to ATP (for on-site training component) | Sign off of plans by project archaeologist (for MM/MPC imprint component); Filing of sign-in sheet with LAWA by project archaeologist, as specified by ATP (for on-site training component) |
| **MM-HA-8**<br>**Monitoring Agency:**<br>**LAWA** | **Archaeological/Cultural Monitor Report.** Upon completion of grading and excavation activities in the vicinity of known archaeological resources, the Archaeological/Cultural monitor shall prepare a written report. The report shall include the results of the fieldwork and all appropriate laboratory and analytical studies that were performed in conjunction with the excavation. The report shall be submitted in draft form to the FAA, LAWA and City of Los Angeles-Cultural Affairs Department. City representatives shall have 30 days to comment on the report. All comments and concerns shall be addressed in a final report issued within 30 days of receipt of city comments. | Loss or destruction of important archaeological resources | Upon completion of grading & excavation activities per ATP | Once, upon completion of excavation and grading activities on a project-by-project basis, pursuant to ATP | Receipt of final report on a project-by-project basis by LAWA |
| **MM-HA-9** | **Artifact Curation.** All artifacts, notes, photographs, and other project-related materials recovered during the monitoring | Loss or destruction of important | Upon completion of each project during | Once, at completion of excavation and | Acceptance letter of curated artifacts from |

# LAX MASTER PLAN ALTERNATIVE D
# MITIGATION MONITORING & REPORTING PROGRAM

| | Master Plan Commitments/ Mitigation Measures | Potential Impact Being Addressed | Timing of Implementation | Monitoring Frequency | Actions Indicating Compliance |
|---|---|---|---|---|---|
| **MM-HA-9**<br>**Monitoring Agency:**<br>**LAWA** | (Cont'd)<br>program shall be curated at a facility meeting federal and state standards. | archaeological resources | which resources were recovered, as stipulated in ATP | grading activities on a project-by-project basis, as stipulated in ATP | selected repository, or offer letter from LAWA to repository |
| **MM-HA-10**<br>**Monitoring Agency:**<br>**LAWA** | **Archaeological Notification.** If human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified: compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, those steps outlined in Section 15064.5(e) of the CEQA Guidelines shall be implemented. | Loss or destruction of important archaeological resources | During excavation and grading activities | When any bone material is encountered and project archaeologist identifies it as human remains | Completion of those steps outlined in Section 15064.5(e) of the CEQA Guidelines and sign off by project archaeologist and, if applicable, selected Native American monitor |

# APPENDIX B

# APPENDIX B

The following is a summary of each of the known cultural resources (sites and structures) within the LAX Master Plan, Alternative D, APE. These resource summaries were taken from Section 4.9.1 of the LAX Master Plan EIR document. The investigations that identified these resources were conducted by various subcontractors, including RMW Paleo Associates, Historic Resources Group (HRG), and PCR Services Corporation (PCR) between 1995 and 2000.

The cultural resources within the APE include eight archaeological sites, one (site CA-LAN-2345) of which was evaluated as meeting the criteria as potentially eligible for the National Register of Historic Places, and seven historical/architectural resources, six that meet the criteria for federal, state, and/or local significance. The significant archaeological site (CA-LAN-2345) and five of the six significant historical/architectural resources will not be affected by the LAX Master Plan project. The sixth historical/architectural resources is the International Airport Industrial District which was found to satisfy the criteria for the California Register and designation as a City of Los Angeles Historic Preservations Overlay Zone (HPOZ). Implementation of Commitment HR-1 and Mitigation Measures MM-HA-1 and MM-HA-2 address the impacts of Alternative D on this historical resource.

## 1.0 Prehistoric Sites

### 1.1 Evaluated as a Significant Cultural Property

#### *1.1.1 Archaeological Site CA-LAN-2345*

This large, prehistoric site contains hundreds of stone tools, bones, shell fragments, and thermally affected stones. There is also an intact feature partially exposed at one edge of a blowout. This feature appears to be a roughly circular construction of stones, some of which are tools. It may well be a fire hearth. The feature is important because it is resting directly on or immediately above Older Dune (Pleistocene) deposits and is partially buried by younger Dune (Holocene) material. This site may have the potential to yield important information in local prehistory. The location of the site indicates that it is extremely old, perhaps dating to the earliest of Milling Stone time. Some support for this age assessment is found in the lack of trade material (steatite, obsidian, fused shale) in the deposit. Some shell collected from CA-LAN-2345 was submitted to Beta Analytic, Coral Gables, Florida, for radiocarbon age assessment. Radiocarbon data range established for the sample (Beta 84842) is 1860 to 2020 B.C.E. (Before Common Era). This date clearly establishes that the site is a manifestation of the Milling Stone cultural period. Site CA-LAN-2345 appears potentially eligible for federal (National Register), state (California Register), and local listing as a prehistoric site.

## 1.2 Evaluated as Not Significant

### *1.2.1 Archaeological Site CA-LAN-202*

This site was recorded in 1953. The site was described as approximately 61 meters (200 feet) in diameter, but no other details regarding the site's characteristics were given. In 1968, Tom King attempted to relocate this site; however, he reported that at the time the houses in the site were still occupied and that yard vegetation was quite dense. A recent detailed examination of the site produced no archaeological evidence of any kind. Because archaeological evidence was not found during the present study and the area has been extensively disturbed, this site appears not to be significant. Thus, this site is ineligible for federal, state, and local designation.

### *1.2.2 Archaeological Site CA-LAN-214*

This site, CA-LAN-214, was also recorded in 1953. The site was indicated as "small" and the artifact content is listed as "points." No other details regarding site characteristics were given. This site is currently concealed by asphalt. It is quite likely that street grading in the area has destroyed the archaeological site's integrity. Due to lack of integrity, archaeological site CA-LAN-214 appears not to be significant. Thus, this site is ineligible for federal, state, and local designation.

### *1.2.3 Archaeological Site CA-LAN-691*

This site was recorded in 1974. The site was described as a shell scatter. The size was estimated as approximately 91 meters by 12 meters (300 by 40 feet) and depth was estimated as at least 0.3 meters (one foot). No artifacts were seen in the site are. The site area is currently buried under about 15 meters (49 feet) or fill. As further discussed in Appendix I, *Section 106 Report* and Appendix S-G, *Supplemental Section 106 Report*, during the current survey process a reasonably good-faith effort was made to relocate archaeological site CA-LAN-691; however, no trace of it was found. Site CA-LAN-691 has been determined ineligible for federal, state, and local designation due to the lack of archaeological evidence found at the site and the extensive disturbances to the area.

### *1.2.4 Archaeological Site CA-LAN-1118*

This site was recorded in 1981 by G. Stickel and S. Appier. It was described as a shell midden with lithic debitage. This site was large, covering an area of 250 by 100 meters (820 feet by 328 feet). Westchester Parkway was constructed in the late 1980's directly through the center of the site. Further, the remaining site has been extensively graded. Due to the lack of integrity, archaeological site CA-LAN-1118 has been determined ineligible for federal, state, and local designation.

#### *1.2.5 Isolate 1*

This prehistoric tool is a large flake made of a very dark, almost black, felsite porphyry, a type of igneous rock. The tool was recorded, but not collected. This isolate has been determined ineligible for the National Register, California Register, or local listing because it is not considered important and does not contribute further to our understanding of human history or prehistory.

#### *1.2.6 Isolate 2*

Isolate 2 is a large flake of reddish quartzite. The tool was recorded, but not collected. Because Isolate 2 does not contribute further to our understanding of human history or prehistory and it does not yield information considered important, it had been determined ineligible for the National Register, California Register, or local listing.

#### *1.2.7 Archaeological Site CA-LAN-*1H*

This site consists of a wide scatter of historic debris, including concrete, asphalt, glass (windowpane, bottle, and decorative), brick fragments, plaster, linoleum fragments, two kinds of countertop tiles, and metal fragments. An examination of the USGS map, airport maps of area, and photographs of the area show that this area was the site of the Nike Missile testing site, which was constructed in 1954. This facility was demolished for the construction of Westchester Parkway, which was completed in 1993. It appears that this site material is debris left from the testing site facility and/or imported as part of the airport fill, since no homes were known to have been built in this area. Site CA-LAN-*1H does not qualify as a historic archaeological site because it consists of redeposited material (secondary deposits) less than 50 years of age. Therefore, this resource is ineligible for the National Register, California Register, or local listing.

## 2.0 Historical/Architectural Properties

### 2.1 Evaluated as Significant Cultural Properties

#### *2.1.1 Hangar One*

Hangar One was listed in the National Register of Historic Places in 1992. The oldest building at LAX, Hangar One was completed in 1929. It was listed in the national Register under Criterion A for its significance as the first structure built at LAX and for its association with a major California industry (aviation). As a National Register listed property, Hangar One is automatically listed in the California Register of Historical Resources. Hangar One was also designated Los Angeles Historic-Cultural Monument #44 in 1966. Hangar One was reevaluated as part of the Section 106 compliance process for the LAX Master Plan. Although not listed in the National Register for its architectural qualities, the building, based on current evaluation, also appears eligible under Criterion C., as a rare example of the Spanish Colonial Revival style in an aviation type industrial building, and for its significance in the work of the locally prominent architectural firm of Gable and Wyant.

Hanger One will not be affected by Alternative D, the approved LAX Master Plan alternative.

### *2.1.2 Theme Building*

The Theme Building was previously evaluated for listing in the National Register of Historic Places and was found eligible for individual listing. For its unique architecture, which has become symbolic not only of the airport but of the whole city, the Theme Building satisfies National Register Criteria Consideration G for exceptional significance in a building less than 50 years old. The Theme Building is also eligible for listing in the California Register for architectural merit under Criterion 3. Constructed in 1961-62, the Theme Building was the centerpiece of the large expansion of LAX which converted it into a "jet-age airport." The arresting design of parabolic arches with a flying saucer restaurant suspended between them was conceived by joint venture architects William L. Pereira, Charles Luckman, Welton Becket, and Paul R. Williams. The Theme Building was designated City of Los Angeles Historic-Cultural Monument #570 in 1992.

The Theme Building will not be affected by Alternative D, the approved LAX Master Plan alternative.

### *2.1.3 World War II (WWII) Munitions Storage Bunker*

After the attack on Pearl Harbor in 1941, the seacoast defense construction program went into high gear in 1942, with priority for the sites along the Pacific Coast. The Harbor Defenses of Los Angeles program consisted of five units that covered the coastline of southern California from Huntington Beach in Orange County north to Santa Barbara. These five units were responsible for approximately 15 batteries of varying size, including the El Segundo Battery at LAX. Upon completing a current assessment of the area, the now exposed Munitions Storage Bunker (originally placed underground) appears to be the only extant remnant of the El Segundo Battery. Because of its contribution to a unified entity (the Harbor Defenses of Los Angeles program), the Munitions Storage Bunker appears to be eligible for the National Register under Criteria A and C as a contributor to a thematic district that has not been fully documented. The potential district, which includes this bunker and several other World War II Harbor Defenses of Los Angeles batteries with extant structures, exhibits distinctive characteristics of a particular property type (military). The district and its contributors also exemplify, symbolize, and manifest tangible elements of the military history in southern California and our conceptions of military preparedness during World War II. In addition, the bunker also appears eligible for the California Register and for local designation as a contributor to a potential thematic grouping of coastal defense properties located along the southern California coastline. The Munitions Storage Bunker, however, is ineligible for the National Register as an individual resource because it lacks individual distinction and integrity.

The Munitions Storage Bunker will not be affected by Alternative D, the approved LAX Master Plan alternative.

### *2.1.4 Intermediate Terminal Complex*

This complex, consisting of two contributors and one non-contributor, is ineligible for listing in the National Register due to alterations and loss of some structures. Intended to be temporary in nature, the Intermediate Terminal Complex originally included the two office buildings and double-arched hangar that are still extant, plus five additional buildings that were used as passenger terminals and hangars. Demolition of the passenger terminals and alterations to the

double-arched hangar prevents the complex from meeting National Register requirements for integrity. However, as a representative milepost in the evolution of the Los Angles Airport, the complex is historically significant under the City of Los Angeles Historic-Cultural Monument criteria and, thus, appears eligible for designation as a Historic-Cultural Monument. It also appears to meet the criteria for the California Register for the same reasons as previously noted.

The Intermediate Terminal Complex will not be affected by Alternative D, the approved LAX Master Plan alternative.

#### *2.1.5 International Airport Industrial District*

Located within the City of Los Angeles, this district is bounded by 102$^{th}$ Street and Century Boulevard on the north, 104$^{th}$ Street on the south, La Cienega Boulevard on the east and Aviation Boulevard on the west. Developed by architect S. Charles Lee, this district originally encompassed approximately 80 industrial buildings (1950-1955). It now contains approximately 48 buildings, 28 of which have undergone modifications to their exteriors. These structures within the district all share certain characteristics such as massing, height, setback, materials, fenestration, adequate parking arrangements, and post-war Modern entries. However, because of its compromised integrity this district is ineligible for the National Register. The district does satisfy the criteria for the California Register and designation as a City of Los Angeles Historic Preservations Overlay Zone (HPOZ) because the district is associated with S. Charles Lee, a nationally prominent architect, whose design skills and entrepreneurial instincts led to an innovative approach to early industrial development.

The district will be affected by Alternative D, the approved LAX Master Plan alternative, but implementation of Commitment HR-1 and Mitigation Measures MM-HA-1 and MM-HA-2 address the impacts of Alternative D on this historical resource.

#### *2.1.6 Merle Norman Headquarters Complex*

The Merle Norman Headquarters Complex is eligible for the National Register under Criterion C for its distinctive architectural style and design utilized in an industrial building. The property also appears eligible for the California Register and for listing as a City of Los Angeles Historic-Cultural Monument. This group of two buildings on Bellanca Avenue in an industrial area near LAX is notable for its architectural qualities. These buildings were built in 1950-1951 and reflect, in their attention to design, the economic success of this cosmetic manufacturing company and an awareness of the expectations of their clientele.

The Merle Norman Headquarters Complex will not be affected by Alternative D, the approved LAX Master Plan alternative.

### 2.2 Evaluated as Not Significant

#### *2.2.1 1961 Airport Traffic Control Tower*

Due to its lack of integrity this property is ineligible for listing in the National Register, the California Register, and for local designation. Recently, the exterior of the 1961 Airport Traffic Control Tower was extensively modified. The most significant modification made at this time was the removal of the character defining spans of fenestration with blue enamel window panels and the bands of vertical metal window louvers around the tower. Though associated with the new Los Angeles "Jet Age" international Airport of the early 1960's, the building has

been modified to a degree where it lacks overall integrity and does not reflect the exceptional importance necessary to satisfy Criterion Consideration G (properties less than 50 years of age) of the National Register criteria.

# APPENDIX C

# APPENDIX C

## 1.0 Research Design

For this project, a research design for the study was developed which presents a number of general research issues that may be pursued. The following prehistoric and historic research design includes topics that are commonly considered at sites in locales similar to the project area. The research design is focused on an attempt to reconstruct the way in which human occupants used the land and resources within the project area through time. As humans lived and died, evidence of their activities has been preserved on and in the ground. Archaeological methods are used to retrieve and analyze portions of this evidence to reconstruct past life ways. This type of inquiry is a part of the cultural resource management aspect of environmental impact studies.

As a prelude to archaeological data recovery, theoretical research hypotheses must be applied to the proposed program to ensure that the information recovered will address these important research concerns. The research design presented here was specifically designed to cover broad research issues. As discussed in the Secretary of the Interior's *Standards for Archaeological Documentation*, as well as in federal, state, and local guidelines regarding cultural resource evaluations, one of the roles of a research design is to assist in the significance determination of any given resource; a resource's ability to contribute to established historic or prehistoric research issues, or lack there of, will help to determine its significance. Since these potential resources have not yet been identified, the research design is provided as part of the ATP in order to facilitate any resource evaluations that may be required, should resources be identified during the archaeological monitoring of the LAX Master Plan project. In order that the research design might aid in the determination of significance for any type of historic or prehistoric deposit that might be identified, the research design was designed to be applicable to a wide range of resources. If any archaeological deposits are discovered, determined to be significant, and data recovery efforts are deemed necessary, it is expected that LAWA and the investigating archaeologist, in consultation with SHPO, should develop more site-specific research issues based on the nature of the deposit.

The research issues selected for the program are designed to address topics of demonstrated importance. The major topics all evolve around the subsistence and settlement system, and include topics regarding the chronological and seasonal placement of this portion of the Los Angeles Basin in the overall prehistoric and historic subsistence and settlement system, and the range of activities undertaken at this location. By designing fieldwork to address these subjects of inquiry, the results of the archaeological program will be made more meaningful to both theoretical and substantive research concerns.

Archaeological Formation Processes

Due to the high possibility of redeposited cultural material within the APE, the understanding of the process by which cultural and natural strata relate to one another within the

project area is crucial to the interpretation of archaeological deposits. This is particularly true in urban areas where a high degree of earth-moving activity has occurred over the coarse of many years. The area of LAX was originally farmland, which itself would impact existing prehistoric deposits to varying degrees depending on the crops being grown and the number of years the land was under cultivation. In the case of the project area, the land is believed to have been cultivated as early as 1844 and as late as the 1920s. Furthermore, the use of an increasingly larger area as an airfield from the 1920s onward could have resulted in significant disturbance to cultural deposits.

Periods of continuity or intervals of transition can be identified in archaeological deposits. Periods of continuity can be identified by a series of similar cultural layers that are buried by natural strata, such as soil accumulation, or cultural strata, such as fill, roadway, or construction (Jones and Stokes 2004). The interface between these layers identifies the transitional event. Since archaeological deposits can accumulate over a wide span of time, and because of the degree of later activity in urban settings, archaeological deposits are extremely susceptible to depositional and post-depositional disturbances (Jones and Stokes 2004).

In the case of resources identified during monitoring as part of the LAX Master Plan, the identification of these transitional events is crucial, as is determining the degree to which the archaeological deposit has been impacted. The most likely depositional and post-depositional processes that are likely to be identified within the project area are those resulting from agricultural activity, filling (reshaping the natural environment), construction of airport-related structures, or construction of urban infrastructure (sewer lines, water lines, roadways).

## 1.1 Prehistoric Research Themes

### *1.1.1 Early Settlement of Coastal Los Angeles County*

Generally, it is believed that an early Holocene hunting orientation in southern California was replaced by a more diversified, plant-oriented strategy during the Millingstone Period (circa 8,000 years BP), becoming ever more broad-based over time (Moratto 1984). Although populations of southern California appear to have been using the Channel Islands and coastal areas as early as the early Holocene, the coastal area of the Los Angeles Basin area in particular exhibits little evidence of continuous occupation from this early period (Altschul and Grenda 2002). This area does, however, appear to become populated between the early to middle Holocene, or specifically during the Millingstone Period. In Los Angeles County, as in other areas of southern California, Millingstone Period adaptations include both a marine resource focus, and an inland terrestrial resource focus.

Questions remain regarding the earlier occupation of the coastal Los Angeles County area. Is the lack of evidence of continuous occupation an actual reflection of settlement patterns during the early period, or are other factors involved? Environmental conditions may account for the paucity of early Holocene occupation in the region. It has also been suggested that

archaeological sites associated with this early period along coastal southern California have been destroyed or obscured by these sea level advancement or sedimentation (Carbone 1991). Identification and investigation of early sites in the project area could contribute to the discussion regarding the earliest settlement of the Los Angeles Basin area.

### *1.1.2 Subsistence Patterns*

During the later middle Holocene (5,000 to 3,350 years BP), a shift in tool technologies occurred in southern California, signaling a shift in food exploitation (Altschul and Grenda 2002). The use of the mortar and pestle appeared by about 3,000 years BP. This period, termed the Campbell tradition by Warren (1968), is characterized by a more generalized hunting-fishing-gathering adaptation. Populations on the coast focused on marine resources, while those inland focused on land mammals (Altschul and Grenda 2002). The increase in archaeological sites suggests that this period experienced a general population expansion, and possibly population increase, in the Santa Barbara/Los Angeles Basin area. Some researchers believe that the general cooling trend that appears to have occurred after 6,000 years BP, might have lead to a resource shift during this late middle Holocene period.

During the late Holocene, with population size and density increasing dramatically, an even more diversified economy was called for (Altschul and Grenda 2002). The Prehistoric Period was the scene of an even wider use of resources but was characterized by new strategies, which focused on storable species, particularly acorns (Chartkoff and Chartkoff 1984; Moratto 1984). Paleoceanic studies indicate that, in general, the interval between 5,400 and 2,000 years BP was characterized by a cooler sea surface and drier climatic conditions (Altschul and Grenda 2002). An increase in the diversity of resource remains from archeological sites reflect an expanding subsistence base, suggesting that inhabitants were getting more accustomed to their arid environments.

There is general agreement that Late Prehistoric Period characteristics include greater settlement densities and increased sedentism. This change in adaptive strategies is perhaps most visible in differences between the middle Holocene and Late Prehistoric tool kits and cultural practices. The Late Prehistoric hallmarks include the introduction of small projectile points, a wide range of lithic materials, especially steatite from the Channel Islands that was extensively traded, and the appearance of pottery and basketry. The differences in these adaptive strategies are pronounced when contrasting sites from these two periods. A mixed hunting/gathering strategy prevailed over both time periods, yet there are enough cumulative differences to make the discrimination between middle Holocene and Late Prehistoric sites and site components a worthy task in order to isolate and characterize subsistence and settlement strategies over time. Discriminating between subsistence practices for the middle Holocene and Late Prehistoric Period populations is central to the issue of adaptive change over time and space.

### *1.1.3 Exchange and Intergroup Relations*

Evidence of the import of coastal resources has been documented at many prehistoric inland sites in the form of shell, fish bone, and marine mammal bone. In order to study this research issue from the perspective of the Late Prehistoric Gabrielino, archaeological investigation of sites must focus on the recovery of ecofacts originating on the coast. Analysis of stratigraphic patterns of coastal ecofactual remains would demonstrate either continuity or change over time between cultural groups. The relative or absolute dating of specific occupation levels containing coastal remains would also help to provide comparisons between cultural groups. The identification of hearth features, localized areas of resource processing, and protein residues on lithic artifacts may indicate whether and in what manner resources were processed on site.

Another interesting element to this transition period between the Archaic and the Late Prehistoric is the Shoshonean incursion. The cultures along the southern California coast shared a number of customs and practices, leading to the belief that they shared cultural stock. However, linguistic studies have shown that these cultures did not originate from a common ancestral culture. Ethnographically, the group within the project area was given the name Gabrieliño. The Gabrieliño spoke a Cupan language that was part of the Shoshonean or Takic family of Uto-Aztecan linguistic stock; this language stock was different from that of the Chumash to the north in the Santa Barbara region, as well as from the Diegueño (Tipai and Ipai) in the southern San Diego region, both of which spoke languages of the Hokan stock. The Gabrieliño language stock is shared, however, with the desert region to the east, as well as cultures to the south in northern San Diego County (Altschul and Grenda 2002).

The timing of this migration is still in question. The Shoshonean incursion is generally believed to have occurred by 1,500 year BP, although dates as late as 1,000 years BP are suggested for the Luiseño further to the south (Bull 1977, 1983; Christenson 1992). However, more recent data, based on Ballona Lagoon data, indicate that an influx of distinctly desert-oriented material culture, dominated by a terrestrial-based subsistence, might have began as early as 3,000 years BP (Altschul and Grenda 2002). These groups appear to reflect a migration of people from the desert to the coast; a people who become increasingly adapted to coastal resources, resulting in a coastal Late Prehistoric adaptation.

Intensification of resources and trade items is undeniable during the Late Prehistoric period in the Los Angeles Basin and surrounding area. The use of non-local lithic materials may be helpful in illuminating the timing and direction of interactions. Obsidian sourcing appears to be very informative as to the period of occupation. Obsidian from Archaic Period sites is usually sourced to Coso or Casa Diablo, while the typical Late Prehistoric Period obsidian source is Obsidian Butte in southeast California, a source that became available after 1640 AD as Lake Cahuilla was desiccated (Kaldenberg 1982). In addition, steatite plays a large role in the economy and trade relations of the Late Prehistoric occupants of the area. In fact, there is evidence of decreasing population, resource specialization, and exploitive exchange with outside groups during the late Holocene in the Los Angeles Basin area.

### *1.1.4 Chronology*

Chronology is the foundation of most archaeological research. In the current case, where contrasts within and between time periods are sought, it is imperative to maximize the number of solidly dated associations. Culture-sensitive materials include pottery, steatite, and projectile points, while relative and absolute dating techniques can be employed on obsidian, shell, charcoal, and soil samples. The exact span of time any site was occupied will be an important research task. At the very least, radiocarbon dating of bulk soil samples provides valuable information regarding the time of occupation and would help to place the site in its regional context. Intersite comparisons within the area will help to more firmly place general lithic assemblages within the local chronology

### *1.1.5 Technology*

To expand the interpretive value of the non-diagnostic artifacts recovered, characteristic tools kits of the middle Holocene and Late Prehistoric groups should be identified in datable contexts. If diagnostic tool kits could be identified, these could be used to assist in the interpretation of the cultural affiliation of other sites lacking individually diagnostic tools or absolute dates.

The use of mano and metates are associated with the middle Holocene occupation of the Los Angeles Basin, as is the general lack of steatite and other trade goods. On the other hand, mortar and pestles, steatite, a variety of decorative items, small projectile points, cremation burials, and trade goods are hallmarks of the Late Prehistoric period in the area. Additionally, there appears to have been a strong connection between the Gabrieliño and the steatite quarried and traded from San Clemente Island. As mentioned above, although these elements are generally taken as temporal markers, these artifact types are not always present on sites. What is needed is more information on both the function and the temporal association of a general lithic tool kit in order to get a clearer idea of middle Holocene and Late Prehistoric Period activities. Sampling at artifact-rich sites with long occupational histories is the ideal arena in which to perform these tasks.

Without empirical evidence, it is difficult to ascertain the function of even the more intuitively obvious tool types; as Carrico and Kyle (1987) point out, the presence of knives may indicate not only hunting, but any activities which include scraping and cutting, such as the processing of wood, shell, and hide. Byrd and Serr's (1993) residue analysis in tools in San Diego County was a case in point: hammerstones showed residues from rabbit and deer, one Desert Side-Notched projectile point contained pronghorn blood, another had trout (or salmon), while an Elko point had rabbit blood residue. All of this is further confounded by the fact that assemblage-oriented analysis to make cultural discriminations is often derailed by seasonal or special activity tool kits (Binford 1980).

Prehistoric Data Needs

The collection of archaeological data can be accomplished in a variety of ways, depending on the level of the investigation and the type of site being investigated. A site on which data recovery is being conducted will undoubtedly produce a wider variety and greater quantity of data applicable to addressing larger research issues. However, not all of the data described are needed and some data are more valuable than others. For example, a site with a wide variety of cultural material may not reveal any temporally diagnostic evidence, in which case it's ability to address relevant research issues is limited. In order to address the research issues raised above in the most complete manner, the following types of data would be required.

(1) Determination of site integrity.
(2) Establishment of temporal occupation; artifact analysis and radiocarbon dating should be conducted to establish the range of occupation dates.
(3) Identification and documentation of any features that might be present; this includes sampling and analysis of any hollow, subsurface feature containing a fill deposit.
(4) Faunal analysis should be conducted on all bone and shell material to determine the focus of the use of animal resources, determine seasonality of occupation, and to compare resources recovered from other prehistoric sites.
(5) Artifact analysis will be conducted to determine lithic artifact material types, and lithic tool assemblage characteristics and diversity. This information will facilitate the analysis of site activities and trade.
(6) Identification of the source of relevant non-local resources.
(7) Residue analysis (pollen, phytolith, and protein) on lithic tools could provide valuable information regarding the use of the tool, the resources that were being exploited, as well as information regarding the existing environment at the time the site was occupied.

### 1.2 Historic Research Themes

Since the entire APE has been subjected to pedestrian surveys, the chances of identifying previously undiscovered historic deposits is relatively low. This is further supported by the fact that since portions of the project area have been used as an airfield since the 1920s, access to the area was necessarily limited. Site types that are most likely to be identified during grading include deposits related to the pre-airfield, agricultural use of the area, deposits associated with the early residential use of the surrounding area, and deposits associated with the various development phases of the airport itself. Due to the significant amount of development that has occurred within the airport in the 1950s and 1960s, the potential is also high for the discovery of secondary fill deposits, possibly containing artifacts from an earlier period. For deposits containing historic artifacts, establishment of the level of integrity of the deposits will play a significant factor in determining the level of archaeological investigation.

It could be said that the growth of the City of Los Angeles in the early and mid 1900s was due, in large part, to the establishment of LAX. Originally, the airfield attracted pilots and spectators alike, but as the airport grew and commercial carriers moved their operations to the airport in 1946, the economy of southern California as a whole was affected. Not only were goods and people were more easily transported to the area, but the airlines and the infrastructure of the airport provided a wide variety of jobs for people in surrounding communities. This in turn brought about the need for surrounding residential and commercial infrastructure. The use of the airport by the military leading up to and during World War II also required a substantial residential base in the surrounding neighborhoods.

The adaptive strategies that may have been used by the occupants of the LAX area during the historic period before the 1928 purchase of Mines Field may be reflected in the economic activities evidenced in the archaeological remains of the sites. The assemblages can provide information on the technology, household composition, subsistence, socioeconomic status, gender, and ethnicity of the occupants. While goods served a subsistence function, they also served a non-subsistence function by acting as symbols that conveyed information about their owners. The material remains that are found in an archaeological deposit would help to interpret how people were influenced by mass-marketing, and the choices they made regarding cost, quality, popularity, or efficiency (Jones and Stokes 2004). Furthermore, these remains can also reveal information regarding ethnicity and household composition.

Historic research issues might include whether the archaeological deposits reflect an increasingly successful economy through time in the area of LAX. One would expect the goods recovered from such deposits to originate from increasingly wider economic area as air travel became more widely available. Similarly, the deposits might reflect a certain economic status of a nearby neighborhood. In rural and urban settings, economic prosperity often relied on successful adaptive strategies. Typically, several adaptive strategies were attempted simultaneously to ensure success. If one strategy failed, the occupant had other means to support the endeavor. This was most often achieved by diversifying the economic activities of the household. For example, if the main economic focus of the household was working on the dock as a laborer, an individual may have supplemented the income through limited agriculture endeavors, selling real estate, owning or running a boarding house or even working for the railroads. Multiple and diversified economic activities increased the chances of success for the resident.

The adaptive strategies that may have been used by the occupants of the LAX area during the historic period before and after the 1928 purchase of Mines Field may be reflected in the economic activities evidenced in the archaeological remains of the sites. The assemblages can provide information on the technology, household composition, subsistence, socioeconomic status, gender, and ethnicity of the occupants. The basic data requirements for the study of historic economic practices include site features and site assemblages, and archival information

on the time and type of occupation, origin of deposits, household composition, ethnicity of occupants, technology, and land ownership.

Historic Data Needs

In order to address the historic research issues raised above in the most complete manner, the following types of data would be required.

(1) Determination of site integrity.
(2) Identification and documentation of any historic features, including wells, cisterns, outhouse pits, and trash pits.
(3) Recovery of a large enough artifact sample size to determine the source of the deposit, assemblage composition, household composition, etc.
(4) Analysis of historic artifacts for temporally diagnostic characteristics such as manufacturing techniques, maker's marks, and product dates.
(5) Appropriate archival research in order to more accurately determine the origin of the deposit, which might include investigation of LAX-related archives, as well as those of neighboring communities.

# APPENDIX D

# LAWA CULTURAL RESOURCES MONITORING RECORD

| | | | | | |
|---|---|---|---|---|---|
| Monitor Record No.: | Monitor Name & Contact No.: | | | | |
| Arrival Time: | Departure Time: | | Date: | | |
| Begin Station: | End Station: | | Location: | | |
| Activity: | | | | | |
| *Check the appropriate boxes if monitors were present* | ☐ | ☐ | ☐ | ☐ | ☐ |
| Native American present: ☐ Name/Affiliation: | | | | | |
| Site Number: | Resource Description: | | | | |
| Cultural Material within Construction Corridor/Area: Yes ☐ No ☐ *(if yes, explain in Monitor Notes below)* | | | | | |
| Equipment Monitored *(type & quantity)*: | | | | | |
| Soil Type / Condition *(use USDA 1973 descriptions)*: | | | | | |
| Monitor Notes *(be explicit; include agency notifications, if any, if construction was halted, if NAHC and/or Coroner were contacted, if further work is necessary to define nature/significance of find, etc.)*: | | | | | |

*(use continuation sheets, sketches, maps, as necessary)*

(Page ___ of ___ )

# LAWA CULTURAL RESOURCES MONITORING RECORD

CONTINUATION SHEET (Page ___ of ___ )

*(use continuation sheets, sketches, maps, as necessary)*

# APPENDIX E

# APPENDIX E

The following contact numbers should be established prior to the initiation of grading and construction activity within the LAX Master Plan in order that the appropriate steps can be implemented immediately should an archaeological deposit be discovered.

LAWA contact:

Resident Engineer:

On-Site Foreman:

Archaeological Principal Investigator:

Monitoring Program Manager:

Native American Heritage Commission: (916) 653-4082

Native American Contact (Monitoring):

Native American Contact (Most Likely Descendant):

Los Angeles County Coroner (*In the case of Human Remains only*):