ENVIRONMENTAL ASSESSMENT

For the Proposed Wireless Facility Known as

CSL06223 FA 13025562 /
AGUA CALIENTE BAND OF CAHUILLA INDIANS

Located at

1097 East Murray Canyon Drive
Palm Springs, Riverside County, California

33˚ 46' 43.6" N / 116˚ 32' 21.84" W

EBI Project No. 6121000528

March 26, 2021

Prepared on behalf of:

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environmental | engineering | due diligence

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CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 PURPOSE & NEED 1

3.0 PROPOSED ACTION 1

3.1 DESCRIPTION OF PROPOSED PROJECT 1
3.2 PROJECT LOCATION 1

4.0 ALTERNATIVES 2

4.1 NO ACTION ALTERNATIVE 2
4.2 PREFERRED ACTION ALTERNATIVE 2
4.3 ALTERNATIVE ACTIONS 2

5.0 AFFECTED ENVIRONMENT 2

5.1 LAND RESOURCES 2
5.2 WATER RESOURCES 3
5.3 BIOLOGICAL RESOURCES 3
5.4 CULTURAL RESOURCES 4
5.5 AESTHETICS 5
5.6 LAND USE 6

6.0 ENVIRONMENTAL CONSEQUENCES 6

6.1 LAND RESOURCES 7
6.2 WATER RESOURCES 8
6.3 BIOLOGICAL RESOURCES 9
6.4 CULTURAL RESOURCES 11
6.5 AESTHETICS 12
6.6 LAND USE 12

7.0 MITIGATION MEASURES 14

8.0 LIST OF PREPARERS 15

9.0 REFERENCES 16

APPENDIX A – Figures

APPENDIX B – Natural Resources Review

APPENDIX C – Historic, Archaeological & Cultural Review Documentation

APPENDIX D – Qualifications

1.0 EXECUTIVE SUMMARY

EBI Consulting (EBI) prepared this Environmental Assessment (EA) in support of the United States Department of the Interior (DOI), Bureau of Indian Affairs (BIA) National Environmental Policy Act (NEPA) review of a proposed wireless communications tower facility located on the Agua Caliente Band of Cahuilla Indians Reservation. This EA was prepared in accordance with the BIA NEPA Guidebook (59 IAM 3-H; 2012). The objective of the EA is to assess whether the planned wireless communications tower facility will likely result in a significant environmental impact.

The proposed wireless facility, known as "CSL06223 FA 13025562 / Agua Caliente Band of Cahuilla Indians" (herein, the Facility), is located at 1097 East Murray Canyon Drive, Palm Springs, Riverside County, California (the Subject Property). AT&T Mobility, LLC proposes to construct a new cellular communications facility in order to improve service in the area.

2.0 PURPOSE & NEED

This federal action (40 CFR 1508.18) involves the BIA approval of a business lease between the Agua Caliente Band of Cahuilla Indians and AT&T Mobility, LLC (the tower owner). The proposal consists of the installation of a wireless communications facility located on the Agua Caliente Band of Cahuilla Indians Reservation. There is little to no coverage for AT&T in this area. Development of this facility will benefit the surrounding population by increasing connectivity with both safety and economic benefits. Additionally, AT&T will pay rent to the Agua Caliente Band which will economically benefit the tribe. The lease approval action triggers BIA compliance with NEPA (42 USC § 4321-4375) and associated regulations (40 CFR 1500-1508, 43 CFR 46). This EA has been prepared to address the proposed installation, and to meet the BIA's NEPA responsibilities.

3.0 PROPOSED ACTION

3.1 Description of Proposed Project

AT&T Mobility, LLC proposes to construct a new wireless communications facility in order to improve service in the area. The proposed project will include the construction of a 54-foot tall mono-palm tower with associated antennas and equipment mounted on the tower. An associated generator and equipment cabinets will be enclosed within a stick-built equipment shelter within a new 16-foot by 25-foot lease area. Power and telco conduit will be routed underground from the site to supply sources. The power route will be extend approximately 100 feet to the power source and then an additional approximately 800 feet to an existing Telco pedestal to the east past Goldenrod Lane.

3.2 Project Location

The proposed Facility is located at 33° 46' 43.6" North Latitude, 116° 32' 21.84" West Longitude. The physical address is 1097 East Murray Canyon Drive, Palm Springs, Riverside County, California, which is located on the Agua Caliente Band of Cahuilla Indians Reservation. The Agua Caliente Band of Cahuilla Indians Reservation is in the Coachella Valley area. The Project Site is located within a golf course in the City of Palm Springs. Surrounding land uses include residential developments to the north and south,

the golf course to the east and west, with vacant parcels of desert scrub scattered to the east and west. The Palm Canyon Wash is located 0.5 miles to the east. The proposed footprint is located in the western end of the Indian Canyons Golf Resort. The Agua Caliente Band of Cahuilla Indians Reservation exterior boundaries enclose a land base of approximately 28,000 acres.

4.0 ALTERNATIVES

4.1 No Action Alternative

The No Action Alternative includes the BIA not approving the proposed Facility at this time and/or the BIA and Tribe not implementing activities under the project. This Alternative does not meet the Purpose and Need of the project.

4.2 Preferred Action Alternative

The Preferred Action Alternative includes the BIA approving the proposed Facility and the BIA and Tribe implementing the activities under the project. This Alternative does meet the Purpose and Need of the project.

4.3 Alternative Actions

No other viable candidate locations, relative to zoning and/or operational requirements, were identified in the Facility siting process. As such, no other Alternative Actions were considered.

5.0 AFFECTED ENVIRONMENT

This chapter describes the environmental components potentially affected by the implementation of the Proposed and No Action Alternatives. The following resources were not carried forward for analysis because no impacts on those resources are anticipated: climate, air quality, hazardous materials, public infrastructure and utilities, health and safety, land use, transportation, noise, recreation, and socio-economic resources.

5.1 Land Resources

5.1.1 Topography

The proposed Facility sits on a relatively level bench of land between the San Jacinto Mountains to the west and Santa Rosa Mountains to the east. The general slope of the surrounding region is to the north of the Facility. According to the United States Geological Survey (USGS) 7.5-minute series topographic map Palm Springs, California 1986, the Facility is approximately 518 feet above mean sea level (AMSL). Survey data provided on the 2020 J5 Infrastructure Drawings notes that the Facility is 529-530 feet AMSL.

5.1.2 Soils

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) website[1], the

[1] http://websoilsurvey.nrcs.usda.gov/app/

dominant soil composition at and within the immediate vicinity of the Facility is Carsitas gravelly sand, 0 to 9 percent slopes (CdC). This component is on alluvial fans. The parent material consists of gravelly alluvium derived from granite. The depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. The available water to a depth of 60 inches (or restricted depth) is very low. This soil is not flooded or ponded. This soil does not meet hydric criteria.

5.2 Water Resources

5.2.1 Surface Waters

The Facility is not located immediately adjacent to any form of surface water feature. A man-made water feature incorporated into the golf course is the nearest surface water feature, which is located approximately 235 feet to the southeast of the Facility.

5.2.2 Wetlands

No hydric vegetation was observed at the Facility or immediate surroundings, and soils were noted to be disturbed and compacted. According to the USFWS National Wetlands Inventory Map (NWI) for the area, the closest wetlands feature to the Facility is the man-made pond (as noted in Section 5.2.1 above), which is located approximately 235 feet to the southeast of the Facility.

5.2.3 Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM; Map #06065C1568G), the Facility is not located within a 100-year floodplain. To note, a small portion of both the proposed access road and utility easement will intersect an area designated by FEMA as Zone A (100-year floodplain), at the access easement ingress commencing from the Goldenrod Lane cul-de-sac. However, neither the access path nor the utility easement is anticipated to alter the ground surface to a degree that will adversely impact the boundaries of this flood zone.

5.3 Biological Resources

5.3.1 Ecosystems & Biological Communities

The Project Site is located within a golf course in the City of Palm Springs. Surrounding land uses include residential developments to the north and south, the golf course to the east and west, with vacant parcels of desert scrub scattered to the east and west. The Palm Canyon Wash is located 0.5 miles to the east. The proposed footprint is located in the western end of the Indian Canyons Golf Resort. The site is completely developed with only golf course turf grass and desert landscaping within the area. Most of the plants consist of ornamental trees and shrubs. There are areas of open space to the northwest, southwest, and northeast of the site, however the project lease area as well as the utility route are separated from the desert habitat by the golf course. There is a small area (~1/3 acre) of remnant desert scrub near the access point from Goldenrod Lane. This area contains one large smoke tree *(Psorothamnus spinosus)*, brittlebush (*Encelia farinosa*), and bursage (*Ambrosia dumosa*). Ornamental shrubs were also present along the utility corridor near the residential development. Most of these are palo verde (*Parkinsonia florida*), mesquite

(Prosopis sp.) and fan palms (*Washingtonia mexicana*).

5.3.2 Vegetation

As noted above, the Project Area is located on a golf course and the site is almost entirely developed, with the remaining areas previously disturbed and landscaped.

5.3.3 Wildlife

Kidd Biological, Inc. prepared a *General Biological Evaluation* dated November 6, 2020 of the proposed installation. This assessment focused on reviewing documented sensitive biological resources onsite and to use the information found in the literature review to determine the potential for these species to occur onsite. Prior to visiting the site, a literature review was done using the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database and California Native Plant Society's Inventory of Rare and Endangered Plants . A report was prepared for sensitive species recorded within three miles of the Project Site. This information was used to help determine if any sensitive resources were previously reported on, or adjacent, to the subject property based on the existing conditions. Information from other resources such as the U.S. Fish and Wildlife service, telecommunication site plans, aerial photography and photographs provided by Ace Environmental, LLC were also reviewed.

Kidd Biological, Inc. conducted a site visit on August 14, 2020. During the assessment site conditions were documented using photos and noting all species detected during the site visit. Special attention was paid to the potential for sensitive species to occur on site and any potential drainage features on the site. Species detected during the site visit were limited to the time of day and the time of year the survey was conducted (e.g. nocturnal species would not have been detected during the daytime survey).

The CNDDB and other sources identified 40 sensitive species as having been previously reported within 3 miles of the project site. Of the list of 40 sensitive species having been reported in the area, none are expected to occur within the project footprint as the site is almost entirely developed, with the remaining areas previously disturbed and landscaped. There is little potential for any sensitive species to occur on the site and therefore no direct impacts to listed species are anticipated from this project.

5.4 Cultural Resources

ACE Environmental, LLC prepared a *Cultural Resource Research and Field Survey* report dated January 9, 2021 for the proposed installation. The Project Direct-Impact Area of Potential Effect (APE) consists of the footprint of the facilities described above plus an approximately 20-foot buffer area. Overall, the new Project includes the utility connection location approximately 150 north and 150 feet east of a cul-de-sac at the north extent of Goldenrod Lane, utility trenching from the connection approximately 800 feet west to an existing pump house, construction of the AT&T shelter containing communication facilities just west of the pump house, and construction of an approximately 54-foot tall monopalm cell tower between and just north of the existing pump house and the proposed shelter. An area of one-half mile radius was assumed for the Project Indirect-Impact (i.e. visual impact) APE.

The proposed Project is on Agua Caliente Indian Reservation allotted land (Allotments 90EA and 105E under long-term master lease ACDA Lease PSL-47). In accordance with Bureau of Indian Affairs Pacific Regional Office Archaeological Survey Requirements dated June 21, 2006, arrangements for the survey were made with the Bureau of Indian Affairs (Dan Hall, Regional Archaeologist-Pacific Region and Ollie Beyal at the Palm Springs Agency) and with the Agua Caliente Band of Cahuilla Indians (Anthony Ramirez, ACBCI Economic Development Project Manager and Patricia Garcia, Director ACBCI Tribal Historic Preservation Office). Consent to proceed with the cultural resources survey was received via email from Ollie Beyal (9/11/20), Anthony Ramirez (9/30/20), Patricia Garcia (10/1/20), and Dan Hall (10/2/20) whose email also communicated the BIA's determination that no ARPA permit was necessary for the proposed cell site survey on trust lands located within the Indian Canyons Golf Resort. All parties requested a copy of the resulting cultural resources report for review and comment prior to finalization.

The archaeological field survey was completed for the East Murray Canyon Drive Cell (CSL06223) Project Direct-Impact APE. Archival research was conducted for both the Project Direct-Impact APE and the Indirect-Impact APE. No archaeological or historical resources were identified in the Project Direct-Impact APE.

The Andreas Canyon Archaeological District is listed on the National Register of Historic Places within the Indirect-Impact APE (P-33-000516 being a part of P-33-11073/Andreas Canyon National Register District). No additional resources are identified as eligible for the National Register on the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD) within the Indirect-Impact APE. Observation in the direction of the proposed Project, from an elevated area on Palm Canyon Drive within the northern portion of the Andreas Canyon Archaeological District, revealed that the proposed Project improvements will not be visible from this location or in all likelihood from other northern portions of the District closest to the proposed Project. Given that the current research and survey identified no archaeological resources within the Direct-Impact APE and no effects on historical resources listed on the National Register of Historic Places or listed as eligible on the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD) within the Indirect-Impact APE, a finding of "No Historic Properties" for the Direct-Impact APE and "No Effect on Historic Properties" for the Indirect-Impact APE is recommended. Additionally, the Agua Caliente Tribal Historic Preservation Office (THPO) has consulted the Agua Caliente Archive and has determined no historic properties are located in this project area, however, due to its proximity to the Andreas Canyon National Register District and the adjacent canyons, the THPO has requested the presence of ACBCI cultural monitors.

5.5 Aesthetics

The Project Area is located within the western end of the Indian Canyons Golf Resort, which is near the southern boundary of the City of Palm Springs, approximately three miles from the city center. Residential development is located approximately 500 feet east and south of the proposed tower and approximately 800 feet north of the proposed tower. The Palm Canyon Wash is located 0.5 miles to the east. Distant views are dominated by the San Jacinto Mountains to the west and Santa Rosa Mountains to the east. The existing landscape character includes sprawling suburban development within a larger sparsely developed surrounding area.

5.6 Land Use

The Project Area is located on a golf course and includes a manicured grass lawn and is adjacent to an existing paved golf cart path and a pump house.

6.0 ENVIRONMENTAL CONSEQUENCES

The following chapter discusses the consequences that the 'No Action' and 'Preferred Action' would have on the environmental resources identified in Section 5.0. As applicable, this analysis includes likely beneficial and adverse effects on the human environment including short-term and long-term effects, direct and indirect effects, and cumulative effects. Detailed consideration is given to those resources that have a potential for environmental effects. Interpretation of impacts in terms of their duration, intensity, and scale are provided where possible.

Cumulative effects are the direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action (40 CFR Part 1508.7). Guidance for implementing NEPA requires that federal agencies identify the temporal and geographic boundaries within which they will evaluate potential cumulative effects of an action and the specific past, present, and reasonably foreseeable projects that will be analyzed. Historical data, as summarized herein, and the reasonably foreseeable life span of the proposed Facility (generally 30 years) provide for the temporal boundary of analysis used for this EA. This boundary encompasses a range within which data are reasonably available and forecasts can be reasonably made. The geographic boundaries of analyses vary depending on the resource and potential effects but are generally considered to be the area of the proposed installation within the proposed Facility lease area.

Terms referring to impact intensity, context, and duration are used in the analysis of effects. Unless otherwise stated, the standard definitions for these terms are as follows:

- Negligible: The impact is at the lower level of detection, and there would be a small change.
- Minor: The impact is slight but detectable, and there would be a small change.
- Moderate: The impact is readily apparent, and there would be a permanent measurable change.
- Major: The impact would be highly noticeable, and there would be a permanent measurable change.
- Localized impact: The impact occurs in a specific site or area. When comparing changes to existing conditions, the impacts are detectable only in the localized area.
- Short-term Effect: The effect occurs only during or immediately after implementation of the alternative and could be beneficial or adverse.
- Long-term Effect: The effect could occur for an extended period after implementation of the alternative. The effect could last several years or more and could be beneficial or adverse.

The nature and duration of effects of each alternative should it be implemented are as follows.

6.1 Land Resources

6.1.1 Topography

No Action Alternative

The No Action Alternative would not require movement or importation of new fill material or grading of existing material within the Project Area. The No Action Alternative would not result in any changes to the proposed installation site or surrounding area. Therefore, the No Action Alternative would have no direct, indirect, or cumulative impacts on topography.

Proposed Action

Direct Effects

The Proposed Action, and specifically the associated utility trenching, would require temporary ground disturbance within the proposed Facility lease area. The utility conduit trench will be backfilled following installation and returned to the original condition. Therefore, the Proposed Action Alternative would have no localized long-term or significant adverse impact on area topography.

Indirect Effects

No potential indirect impacts on area topography resulting from the required installation work of the Proposed Action have been identified.

Cumulative Effects

Installation work associated with the Proposed Action is not expected to trigger substantial increased erosion or result in other development in the surrounding area. No potential cumulative or significant impacts on area topography resulting from installation work under the Proposed Action have been identified. Reasonably foreseeable future actions in the Project Area include the installation of additional equipment and the collocation of additional antennas on the tower, but these future actions would be located within the currently proposed project footprint.

6.1.2 Soil

No Action Alternative

The No Action Alternative would not require ground disturbance in the Project Area. Therefore, the No Action Alternative would have no direct, indirect, or cumulative impacts on soils.

Proposed Action

Direct Effects

Under the Proposed Action, soil disturbance is limited to approximately 100 linear feet for the power

route and an additional approximately 800 linear feet for the telco route within the Project Area limits. However, the Project Area is within a golf course and includes previously disturbed and landscaped land. Further, the ground surface will be returned to its original state following the installation work. As such, the installation would not result in any new ground disturbance within previously undisturbed areas. Therefore, the Proposed Action Alternative would have no localized long-term or significant adverse impact on soils.

Indirect Effects

Potential indirect impacts on soils resulting from the Proposed Action would be related to soil disturbance from outside forces after installation work has been completed. Although erosion-control measures would be implemented according to standard practice, some erosion might occur from rain and wind until these disturbed areas develop an erosion-resistant crust or vegetation begins to grow. However, the impact is expected to diminish over time. Therefore, the Proposed Action would have a negligible and less than significant adverse indirect impact on soils.

Cumulative Impacts

Due to its small footprint the magnitude of disturbance, the impacts of the proposed installation would be negligible compared to natural erosion occurring within area over time. Therefore, when considering the size of the Project Area and other past, present, and reasonably foreseeable future actions, the Proposed Action would result in a negligible and less than significant contribution to cumulative impacts on soils.

6.2 Water Resources

6.2.1 Water Resources, Wetlands and Floodplains

No Action Alternative

The No Action Alternative would not require impacts to waters of the U.S. (WOTUS) or the use of construction water. Therefore, the No Action Alternative would have no direct, indirect, or cumulative impacts on water resources.

Proposed Action

Direct Impacts

The proposed Project Area does not contain and is not near jurisdictional waters of the U.S. No proposed equipment or permanent aboveground structures will be located within a 100-year floodplain; therefore, there will be no impact on floodplain management issues.

There are no sole-source aquifers in the Project Area; therefore, there will be no impact on this resource.

Impacts from installation work may involve minor increased surface runoff and soil erosion related to the utility trenching within the proposed Project Area. A minor temporary increase in the amount of topsoil

carried by natural runoff (and thus a decrease in water quality) is possible but is anticipated to be minimal and should be controlled by the site's natural topographic features.

Under Section 402(p) of the Clean Water Act, a National Pollutant Discharge Elimination System (NPDES) Construction General Permit is required for all construction activities when one or more acres of land will be graded or excavated during construction. The purpose of the permit is to control pollution from stormwater discharge. Installation work associated with the Proposed Action Alternative involves the disturbance of less than one acre of land.

Indirect Impacts

Potential indirect impacts on water resources resulting from the Proposed Action would be related to the potential for increased turbidity in stormwater runoff due to erosion from disturbed areas after installation work has been completed. Although erosion-control measures would be implemented according to standard practice, some erosion might occur from storm events, increasing turbidity in runoff. However, the ground surface will be returned to its original state (i.e. landscaped golf course and previously disturbed land) following the installation and as such, the impact would be minimal and would diminish over time. Therefore, the Proposed Action would have negligible and less than significant indirect impacts on water resources.

Cumulative Impacts

The minor adverse direct and negligible indirect impacts associated with the proposed installation will have negligible effects on water resources from the construction of the Facility. When considering the size of the project and other past, present, and reasonably foreseeable future actions, the Preferred Alternative would result in negligible and less than significant contribution to cumulative impacts on water resources.

6.3 Biological Resources

6.3.1 Ecosystems and Biological Communities

The proposed installation consists of a new monopalm tower and associated ground-level support equipment. The proposed ground disturbance will be limited to the lease area and utility route, which currently consists of a golf course, including landscaped and previously disturbed land.

There are no natural ecosystems or biological communities in the Project Area. Therefore, both the No Action Alternative and the Proposed Action would have no direct, indirect, or cumulative impacts on natural ecosystems or biological communities.

6.3.2 Vegetation

The proposed installation consists of a new monopalm tower and associated ground-level support equipment. The proposed ground disturbance will be limited to the lease area and utility route, which currently consists of a golf course, including landscaped and previously disturbed land.

There is a small area (~1/3 acre) of remnant desert scrub near the access point from Goldenrod Lane. This area contains one large smoke tree *(Psorothamnus spinosus)*, brittlebush (*Encelia farinosa*), and bursage (*Ambrosia dumosa*). Ornamental shrubs were also present along the utility corridor near the residential development. Most of these are palo verde (*Parkinsonia florida*), mesquite (Prosopis sp.) and fan palms (*Washingtonia mexicana*). The site is almost entirely developed, with the remaining areas previously disturbed and landscaped. There is little potential for any sensitive species to occur on the site and therefore no direct impacts to listed species are anticipated from this project. Therefore, both the No Action Alternative and the Proposed Action would have no direct, indirect, or cumulative impacts on vegetation.

6.3.3 Wildlife

The proposed installation consists of a new monopalm tower and associated ground-level support equipment. The proposed ground disturbance will be limited to the lease area and utility route, which currently consists of a golf course, including landscaped and previously disturbed land.

Of the list of 40 sensitive species having been reported in the area, none are expected to occur within the project footprint as the site is almost entirely developed, with the remaining areas previously disturbed and landscaped. There is little potential for any sensitive species to occur on the site and therefore no direct impacts to listed species are anticipated from this project.

The nearby desert habitat may have sensitive species and flying species such as bats and birds may forage over the golf course. There is some remnant desert habitat within the utility corridor. This area is heavily disturbed and although it is comprised of typical desert species it is likely too small and too disturbed to support sensitive species. Wildlife detected in the area included Canada goose (*Branta canadensis*), black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), verdin (*Auriparus flaviceps*), northern mockingbird (*Mimus polyglottos*), vermillion flycatcher (*Pyrocephalus rubinus*), Costa's hummingbird (*Calypte costae*), black-chinned hummingbird (*Archilochus alexandri*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), and a deceased barn owl (*Tyto alba*).

Temporary indirect impacts include impacts that are incurred during construction such as noise, dust, night-lighting and pollutants. After construction is complete, on-going indirect impacts include night-lighting from permanent fixtures, radio microwaves from the tower and on-going maintenance noise. Plants are generally not significantly impacted by indirect impacts. Wildlife may be negatively impacted in their behavior by noise and artificial lighting. Of note, nesting birds may abandon nests to escape from noise or lighting. Adjacent ornamental landscaping as well as the adjoining desert habitat may support nesting birds that are protected by CDFW codes and the Migratory Bird Treaty Act (MBTA).

The adjacent desert/creosote scrub habitat as well as the landscaping within the golf course are likely to be used by nesting birds. The zone of influence of the proposed facility construction consists of the footprint of the proposed facility and construction access points, plus the immediately surrounding vegetation (see Figure 3). Due to the potential for birds to nest in the vicinity of this site, if construction of

this site should occur during the bird nesting season a preconstruction clearance survey of the site and the surrounding habitats within 500 feet of the site should be surveyed no more than 7 days prior to the start of construction. If an active nest is found within the project's zone of influence avoidance measures will be recommended. Delay of the project may be recommended if impacts from construction could cause a nest failure. If during future maintenance, the crew encounters a nest on or immediately adjacent to the project site, work should stop immediately until a biologist can determine the status of the nest and when work can proceed without risking violation to state or federal laws.

The site falls within the boundaries of the Coachella Valley MSHCP. This report does not meet the County's standards for analysis for the project's compliance with this plan. Due to the small size and nature of the project and the previous development on the site, the County will likely not require an additional analysis.

Given the nature of the proposed installation, and the proposed ground disturbance being limited to landscaped and previously disturbed areas, there is no suitable habitat for federal-listed, state, or tribal species of concern in the Project Area. Therefore, both the No Action Alternative and the Proposed Action would have no direct, indirect, or cumulative impacts on federally listed species.

6.4 Cultural Resources

No historic, cultural, or religious properties were identified within the Project Area. As such, there would be no direct, indirect, or cumulative impacts on historic properties.

There would be no direct, indirect, or cumulative impacts on archaeological resources from the No Action Alternative or the Proposed Action.

In an email correspondence dated November 24, 2020, Ms. Patricia Garcia-Plotkin, Director of Historic Preservation with the Agua Caliente Band of Cahuilla Indians, stated, "The Agua Caliente Tribal Historic Preservation Office (THPO) has consulted the Agua Caliente Archive and has determined no historic properties are located in this project area, however, due to its proximity to the Andreas Canyon National Register District and the adjacent canyons, the THPO has requested the presence of ACBCI cultural monitors."

Ms. Garcia-Plotkin continued, "Additionally, for future reports in the Agua Caliente traditional use area, please review and incorporate elements of the attached THPO historic preservation management plan and research design into your reports and cite as a reference."

Any archaeological or historical artifacts or remains discovered during construction shall be left intact and undisturbed, all work in the area shall stop immediately, and the State Historic Preservation Office (SHPO) and the Agua Caliente Band of Cahuilla Indians shall be notified immediately pursuant to 36 CFR 800.13. Commencement of operations shall be allowed upon notification by the SHPO and the Tribe.

If during construction operations any human remains, funerary objects, sacred objects or object of cultural patrimony as defined in the native American Graves Protection and Repatriation Act (P.L. 101-601; Stat. 3048; 25 U.S.C. 3001) are discovered, the Operator shall stop operations in the immediate area of discovery, protect the remains and objects, and immediately notify the Tribe of the discovery by telephone with written confirmation. The Operator shall continue to protect the immediate area of the discovery until notified by the Tribe that operations may continue.

6.5 Aesthetics

No Action Alternative

The No Action Alternative would not require a change in the visual landscape. The No Action Alternative would not result in any changes to the proposed installation site or surrounding area. Therefore, the No Action Alternative would have no direct, indirect, or cumulative impacts on aesthetics.

Proposed Action

Direct and Indirect Effects

The Proposed Action will include a 54-foot tall monopalm tower and an adjacent stick-built equipment shelter. AT&T chose the proposed monopalm design in order to blend in with the surrounding landscape, which includes palm trees. The stick-built equipment shelter will match the existing pump house in color, finish, and height. The tower and equipment shelter designs were chosen to ensure that they will blend in with the current appearance of the area. Therefore, the Proposed Action Alternative would have negligible localized and less than significant long-term direct and indirect impact on area aesthetics.

Cumulative Effects

Installation work associated with the Proposed Action is not expected to trigger a substantial increased visual element to the landscape. No potential cumulative impacts on area aesthetics resulting from installation work under the Proposed Action have been identified. Reasonably foreseeable future actions in the Project Area include the installation of additional equipment and the collocation of additional antennas on the tower, but these future actions would be located within the currently proposed project footprint, which has been designed to blend in with the landscape.

6.6 Land Use

No Action Alternative

The No Action Alternative would not require a change in the land use. The No Action Alternative would not result in any changes to the proposed installation site or surrounding area. Therefore, the No Action Alternative would have no direct, indirect, or cumulative impacts on land use.

Proposed Action

Direct and Indirect Effects

The Proposed Action will include a 54-foot tall monopalm tower and an adjacent 25-foot by 16-foot stick-

built equipment shelter installed on a currently landscaped portion of the golf course. The overall use of the property as a golf course will not be impacted. Therefore, the Proposed Action Alternative would have negligible and less than significant localized long-term direct and indirect impact on area land use.

Cumulative Effects

Installation work associated with the Proposed Action is not expected to trigger a substantial change in the surrounding land use. Negligible cumulative impacts on area land use resulting from installation work under the Proposed Action have been identified. Reasonably foreseeable future actions in the Project Area include the installation of additional equipment and the collocation of additional antennas on the tower, but these future actions would be located within the currently proposed project footprint, which has been designed to have a limited impact on the land use.

7.0 MITIGATION MEASURES

In order to reduce or eliminate negative affects to the Human Environment, the following mitigation measures, including Best Management Practices (BMPs), will be incorporated into the design and construction of the proposed action alternative, if it is selected.

- BMPs to control erosion from area of construction will be implemented to prevent sediment from leaving the site.

- The adjacent desert/creosote scrub habitat as well as the landscaping within the golf course are likely to be used by nesting birds. Due to the potential for birds to nest in the vicinity of this site, if construction of this site should occur during the bird nesting season a preconstruction clearance survey of the site and the surrounding habitats within 500 feet of the site should be surveyed no more than 7 days prior to the start of construction. If an active nest is found within the project's zone of influence avoidance measures will be recommended. Delay of the project may be recommended if impacts from construction could cause a nest failure. If during future maintenance, the crew encounters a nest on or immediately adjacent to the project site, work should stop immediately until a biologist can determine the status of the nest and when work can proceed without risking violation to state or federal laws.

- Due to the proximity of the site to the Andreas Canyon National Register District and the adjacent canyons, the THPO has requested the presence of Aqua Caliente Band of Cahuilla Indians' cultural monitors.

- The Agua Caliente Band of Cahuilla Indians requests that AT&T Mobility, LLC review and incorporate elements of the THPO's Historic Preservation Management Plan and research design into their reports and cite as a reference.

- Any archaeological or historical artifacts or remains discovered during construction shall be left intact and undisturbed, all work in the area shall stop immediately, and the State Historic Preservation Office (SHPO) and the Agua Caliente Band of Cahuilla Indians shall be notified immediately pursuant to 36 CFR 800.13. Commencement of operations shall be allowed upon notification by the SHPO and the Tribe.

  If during construction operations any human remains, funerary objects, sacred objects or object of cultural patrimony as defined in the native American Graves Protection and Repatriation Act (P.L. 101-601; Stat. 3048; 25 U.S.C. 3001) are discovered, the Operator shall stop operations in the immediate area of discovery, protect the remains and objects, and immediately notify the Tribe of the discovery by telephone with written confirmation. The Operator shall continue to protect the immediate area of the discovery until notified by the Tribe that operations may continue.

8.0 LIST OF PREPARERS

This Environmental Assessment was prepared on behalf of, and under the supervision of Chad Broussard, Environmental Protection Specialist, BIA Pacific Regional Office, by Lee Brewer, Senior Scientist, EBI Consulting.

The following are individuals that contributed to the development or review of this environmental assessment.

Sue Wade, Archaeologist, ACE Environmental, LLC

Nina Jimerson-Kidd, Wildlife Biologist, Kidd Biological, Inc.

Lee Brewer: Senior Scientist, EBI Consulting

Trevelyn Carvino: Assistant Technical Director, NEPA, EBI Consulting

Christopher W. Baird: Technical Director, NEPA, EBI Consulting

9.0 REFERENCES

Agua Caliente Band of Cahuilla Indians Historic Preservation Management Plan. Prepared by Agua Caliente Band of Cahuilla Indians of Palm Springs, CA and URS Corporation of La Jolla, CA. Dated September 30, 2011.

Agua Caliente Band of Cahuilla Indians Research Design. Prepared by Agua Caliente Band of Cahuilla Indians of Palm Springs, CA and URS Corporation of La Jolla, CA. Post 2011 (Report not dated).

Cultural Resource Research and Field Survey. AT&T Site CSL06223, Agua Caliente Band of Cahuilla Indians, 1097 East Murray Canyon Drive, Palm Springs, Riverside County, CA 92264. FA #13025562. Prepared by ACE Environmental, LLC of Las Vegas, NV. Dated January 9, 2021.

Email Correspondence dated November 24, 2020 from Ms. Patricia Garcia-Plotkin, Director of Historic Preservation with the Agua Caliente Band of Cahuilla Indians.

General Biological Evaluation. AT&T Site CSL06223, Agua Caliente Band of Cahuilla Indians, 1097 East Murray Canyon Drive, Palm Springs, Riverside County, CA 92264. FA #13025562. Prepared by ACE Environmental, LLC of Las Vegas, NV. Dated November 6, 2020.

Project Drawings project provided by AT&T Mobility LLC, prepared by J5 Infrastructure, dated November 9, 2020.

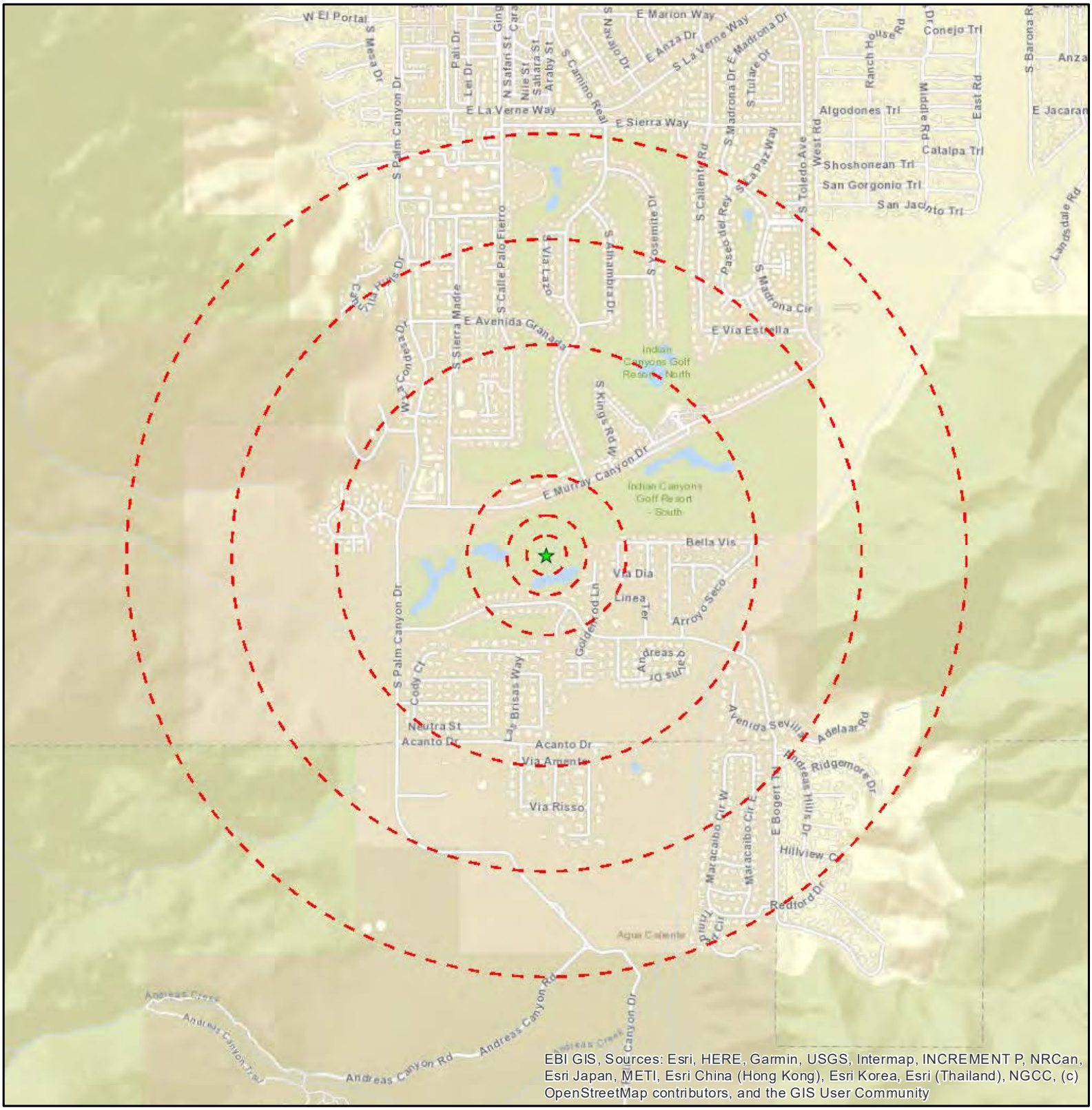
Websites:
FEMA Flood Map Service Center website: https://msc.fema.gov/portal/home

U.S. Department of the Interior Indian Affairs website: https://www.bia.gov/regional-offices/pacific/palm-springs-agency

U.S. Fish & Wildlife Service National Wetland Inventory website:
https://www.fws.gov/wetlands/data/mapper.html

Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) website:
http://websoilsurvey.nrcs.usda.gov/app/,

APPENDIX A:
FIGURES



Legend

★ Project Site

Site Radius at 250', 500', 1000', ½, ¾ & 1 mile

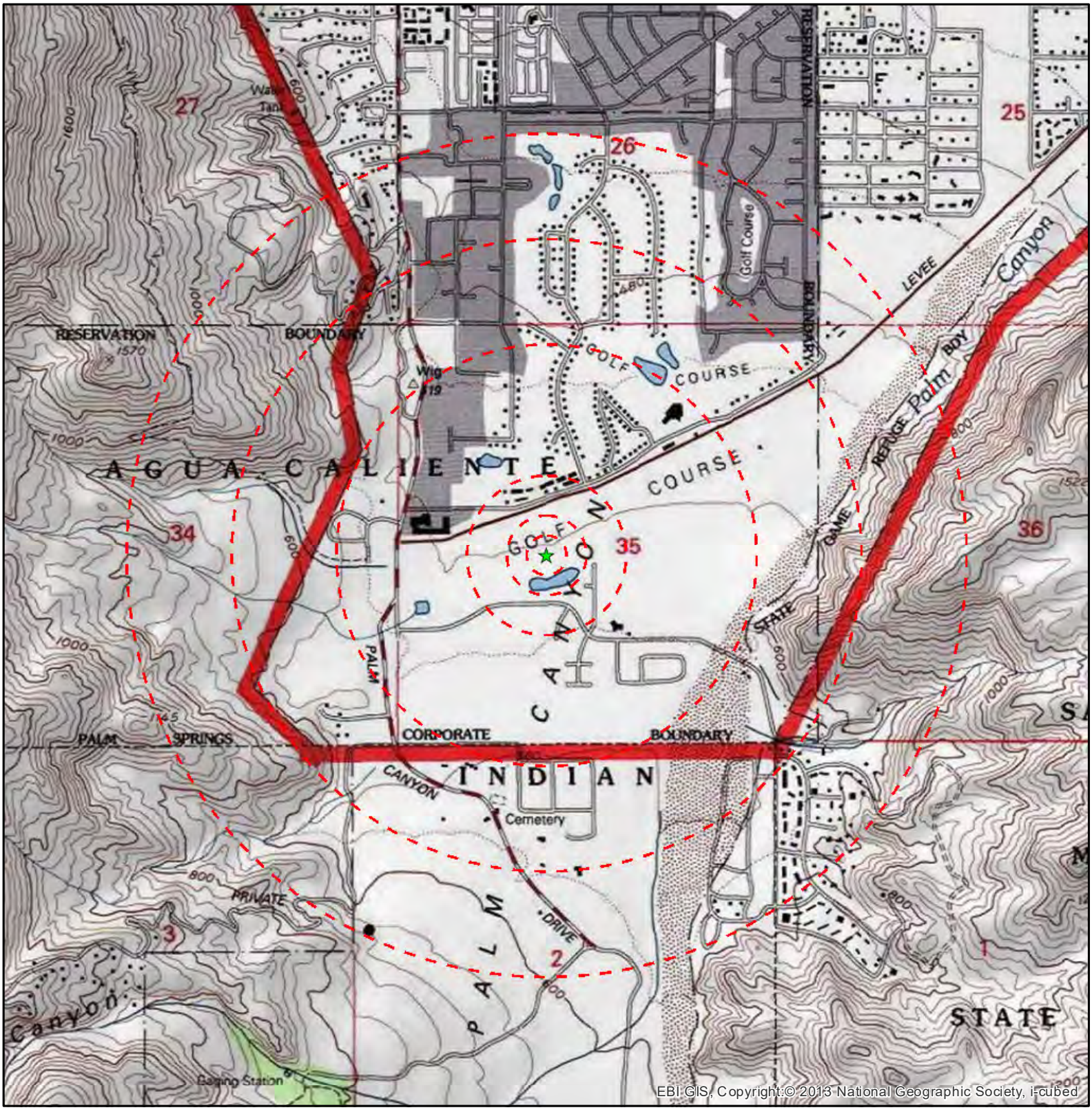
Date: 2/12/2021

Figure 1: Site Location Map

CSL06223 FA 13025562 AGUA CALIENTE BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR
PALM SPRINGS, CALIFORNIA 92264

PN: 6121000528

EBI Consulting
environmental | engineering | design



Legend

★ Project Site

Site Radius at 250', 500', 1000', ½, ¾ & 1 mile

USGS 24K Quad: Palm Springs, CA 1986

Date: 2/12/2021

Figure 2 - Topographic Map

N

CSL06223 FA 13025562 AGUA CALIENTE BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR
PALM SPRINGS, CALIFORNIA 92264

PN: 6121000528

EBI Consulting
environmental | engineering | design

Figure 3: Nesting Bird Potential Zone of Influence

CSL06223 FA 13025562 AGUA CALIENTE BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR
PALM SPRINGS, CALIFORNIA 92264

PN: 6121000528

N

CODE COMPLIANCE

ALL WORKS AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

1. 2019 CALIFORNIA BUILDING CODE
2. 2019 CALIFORNIA ELECTRICAL CODE ADOPTED 2014 NEC
3. 2019 CALIFORNIA FIRE CODE
4. 2019 CALIFORNIA MECHANICAL CODE
5. 2019 CALIFORNIA PLUMBING CODE
6. 2019 CALIFORNIA ENERGY CODE
7. COUNTY COASTAL ZONE LAND USE ORDINANCE-TITLE 23
8. COUNTY FIRE CODE ORDINANCE - TITLE 16
9. COUNTY LAND USE ORDINANCE - TITLE 22
10. COUNTY BUILDING AND CONSTRUCTION ORDINANCE - TITLE 19

PROJECT TEAM

CLIENT REPRESENTATIVE
COMPANY: J5 INFRASTRUCTURE PARTNERS
ADDRESS: 2030 MAIN ST, SUITE 200
CITY,STATE,ZIP: IRVINE, CA 92614
CONTACT: MELISSA FRANCISCO
PHONE: (562) 972-5161
EMAIL: MELISSA.FRANCISCO@J5IP.COM

SITE ACQUISITION
COMPANY: J5 INFRASTRUCTURE PARTNERS
ADDRESS: 2030 MAIN ST, SUITE 200
CITY,STATE,ZIP: IRVINE, CA 92614
CONTACT: MELISSA FRANCISCO
PHONE: (562) 972-5161
EMAIL: MELISSA.FRANCISCO@J5IP.COM

ZONING
COMPANY: J5 INFRASTRUCTURE PARTNERS
ADDRESS: 2030 MAIN ST, SUITE 200
CITY,STATE,ZIP: IRVINE, CA 92614
CONTACT: MELISSA FRANCISCO
PHONE: (562) 972-5161
EMAIL: MELISSA.FRANCISCO@J5IP.COM

ENGINEER
COMPANY: CASA INDUSTRIES, INC.
ADDRESS: 9926 PIONEER BLVD, #105
CITY,STATE,ZIP: STA FE SPRINGS, CA 90670
CONTACT: LUIS CARDONA
PHONE: (562) 652-5330
EMAIL: LCARDONA@CASAIND.COM

CONSTRUCTION MANAGER
COMPANY: BECHTEL
ADDRESS: 16808 ARMSTRONG AVE #225
CITY,STATE,ZIP: IRVINE, CA. 92606
CONTACT: RON VANDERWAL
PHONE: (714) 343-0931
EMAIL: RVANDERW@BECHTEL.COM

APPLICANT
COMPANY: AT&T
ADDRESS: 1452 EDINGER AVE
CITY,STATE,ZIP: TUSTIN, CA 92780

ATT PROJECT MANAGER
COMPANY: AT&T
ADDRESS: 1452 EDINGER AVE
CITY,STATE,ZIP: TUSTIN, CA 92780
CONTACT: GUNJAN MALIK
PHONE: (562) 650-5681
EMAIL: GM827W@ATT.COM

RF ENGINEER
COMPANY: AT&T
ADDRESS: 1452 EDINGER AVE
CITY,STATE,ZIP: TUSTIN, CA 92780
CONTACT: SANDEEP MANGAT
PHONE: (805) 312-1694
EMAIL: SM2840@ATT.COM

SITE INFORMATION

APPLICANT / LESSEE

AT&T

1452 EDINGER AVE
TUSTIN, CA 92780

PROPERTY OWNER
NAME: AGUA CALIENTE BAND OF CAHUILLA INDIANS
ADDRESS: 5401 DINAH SHORE DRIVE
CITY,STATE,ZIP: PALM SPRINGS, CA 92264
CONTACT: ANTHONY RAMIREZ
PHONE: (760) 883-1330

BUILDING SUMMARY

LATITUDE:	33° 46' 43.62" (33.778783°) N
LONGITUDE:	116° 32' 21.84" (-116.539400°) W
LAT./LONG. TYPE:	NAD 83
GROUND ELEVATION:	53' (AGL)
APN #:	512-200-005
BUILDING USE:	U
CONSTRUCTION TYPE:	III-B
ZONING / JURISDICTION:	CITY OF PALM SPRINGS
CURRENT ZONING:	SOUTH COURSE / ZONE-W (WATER COURSE)
PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY
HANDICAP REQUIREMENTS:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED
EQUIPMENT LEASE AREA:	400 SQ. FT.

AT&T
Your world. Delivered

SITE NUMBER: CSL06223
SITE NAME: AGUA CALIENTE BAND OF CAHUILLA INDIANS
FA#: 13025562 / USID#: 248647
1097 EAST MURRAY CANYON DR.
PALM SPRINGS, CALIFORNIA 92264
COUNTY OF RIVERSIDE

VICINITY MAP

LOCAL MAP

DRIVING DIRECTIONS

DIRECTIONS FROM AT&T OFFICE:
TURN LEFT ONTO EDINGER AVE. USE THE LEFT 2 LANES TO TURN LEFT ONTO DEL AMO AVE. USE THE RIGHT 2 LANES TO TAKE THE RAMP ONTO CA-55 N/STATE RTE 55 N. MERGE ONTO CA-55 N/STATE RTE 55 N. MERGE ONTO CA-91 E. USE THE RIGHT 2 LANES TO TAKE EXIT 65 B FOR CA-60 E/I-215 S TOWARD SAN DIEGO/INDIO. MERGE ONTO CA-60 E. CONTINUE ONTO CA-60 E/I-215 S. KEEP LEFT AT THE FORK TO CONTINUE ON CA-60 E. USE ANY LANE TO TAKE THE INTERSTATE 10 S EXIT. MERGE ONTO I-10 E. USE THE RIGHT 2 LANES TO TAKE EXIT 111 FOR CA-111 TOWARD PALM SPRINGS. CONTINUE ONTO CA-111. CONTINUE STRAIGHT ONTO N PALM CANYON DR. SLIGHT RIGHT ONTO S PALM CANYON DR. TURN LEFT ONTO MURRAY CANYON DR. TURN RIGHT. DESTINATION WILL BE ON THE RIGHT.

LEGAL DESCRIPTION

PENDING

DIGALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO WORKING DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT & MAY IMPOSE CHANGES OR MODIFICATIONS.

DISCIPLINE:	SIGNATURE:	DATE:
AT&T RF ENGINEER:		
AT&T OPERATIONS:		
SITE ACQUISITION:		
CONSTRUCTION MANAGER:		
PROPERTY OWNER:		
ZONING VENDOR:		
PROJECT MANAGER:		

GENERAL CONTRACTOR NOTES

DO NOT SCALE DRAWINGS
SUBCONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

PROJECT DESCRIPTION

STICK BUILT SHELTER / OUTDOOR EQUIPMENT

'AT&T' PROPOSED TO CONSTRUCT, OPERATE AND MAINTAIN AN UNMANNED WIRELESS COMMUNICATIONS FACILITY. THIS FACILITY WILL CONSIST OF THE FOLLOWING:

- INSTALL 12 (P) 8' PANEL ANTENNAS (4 PER SECTOR).
- INSTALL 36 (P) LTE RRUS AT ANTENNA LEVEL (12 PER SECTOR).
- INSTALL 4 (P) DC-09 SURGE SUPPRESSOR.
- INSTALL 2 (P) EMERSON POWER CABINET.
- INSTALL 4 (P) PURCELL CABINET.
- INSTALL 1 (P) GPS ANTENNA.
- INSTALL 2 (P) 2'ø MW ANTENNAS.
- INSTALL (P) UTILITY CABINETS.
- INSTALL 3 (P) DC-12 OUTDOOR.
- INSTALL 1 (P) 30KW GENERAC DIESEL GENERATOR.
- INSTALL (P) STICK BUILT SHELTER TO MATCH BUILDING NEAR TRANSFORMER.
- INSTALL (P) MONOPALM.
- INSTALL (P) METER PEDESTAL.
- INSTALL 3 (P) LIVE PALM TREES.

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
LS-1	SITE SURVEY
LS-2	SITE SURVEY
LS-3	OVERALL SURVEY
LS-4	OVERALL SURVEY
A-1	SITE PLAN
A-2	PARTIAL ROOF PLAN AND EQUIPMENT PLAN
A-3	ANTENNA PLAN, RRU ELEVATION AND ANTENNA/RRU SCHEDULE
A-4	ELEVATIONS

AT&T
1452 EDINGER AVE., 3RD FLOOR
TUSTIN, CALIFORNIA 92780

J5 INFRASTRUCTURE PARTNERS
2030 MAIN ST. SUITE 200
IRVINE, CA. 92614

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

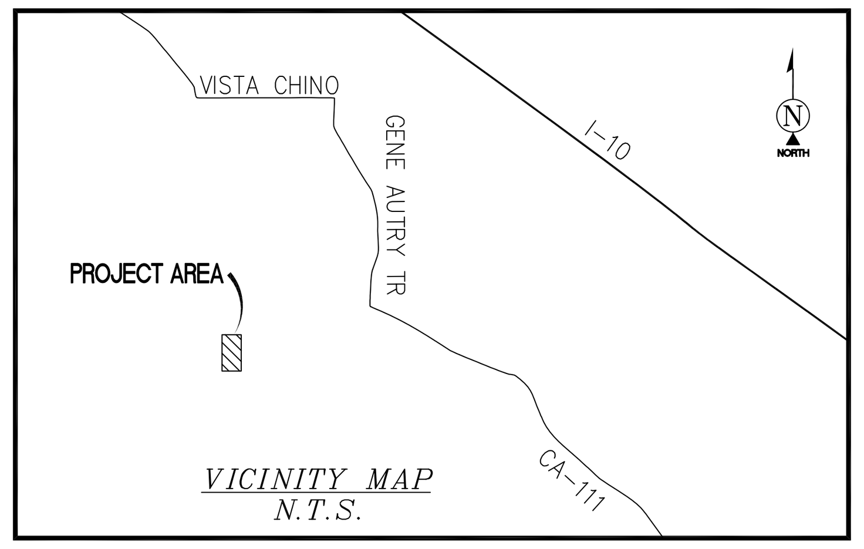
REV	DATE	DESCRIPTION
6	11/09/20	REVISED PER NEW TITLE
5	06/25/20	NEW WELL DESIGN
4	02/21/20	NEW POLE DESIGN/LANDSCAPE
3	08/15/19	NEW POLE LOCATION PER RF
2	06/20/19	NEW LEASE AREA LOCATION
1	05/03/19	REVISED ZDs
0	04/12/19	100% ZONING DRAWINGS
A	03/28/19	90% ZONING DRAWINGS

NOT TO BE USED FOR CONSTRUCTION

CSL06223
AGUA CALIENTE
BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR.
PALM SPRINGS, CA. 92264

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



SURVEY DATE
04/23/2019

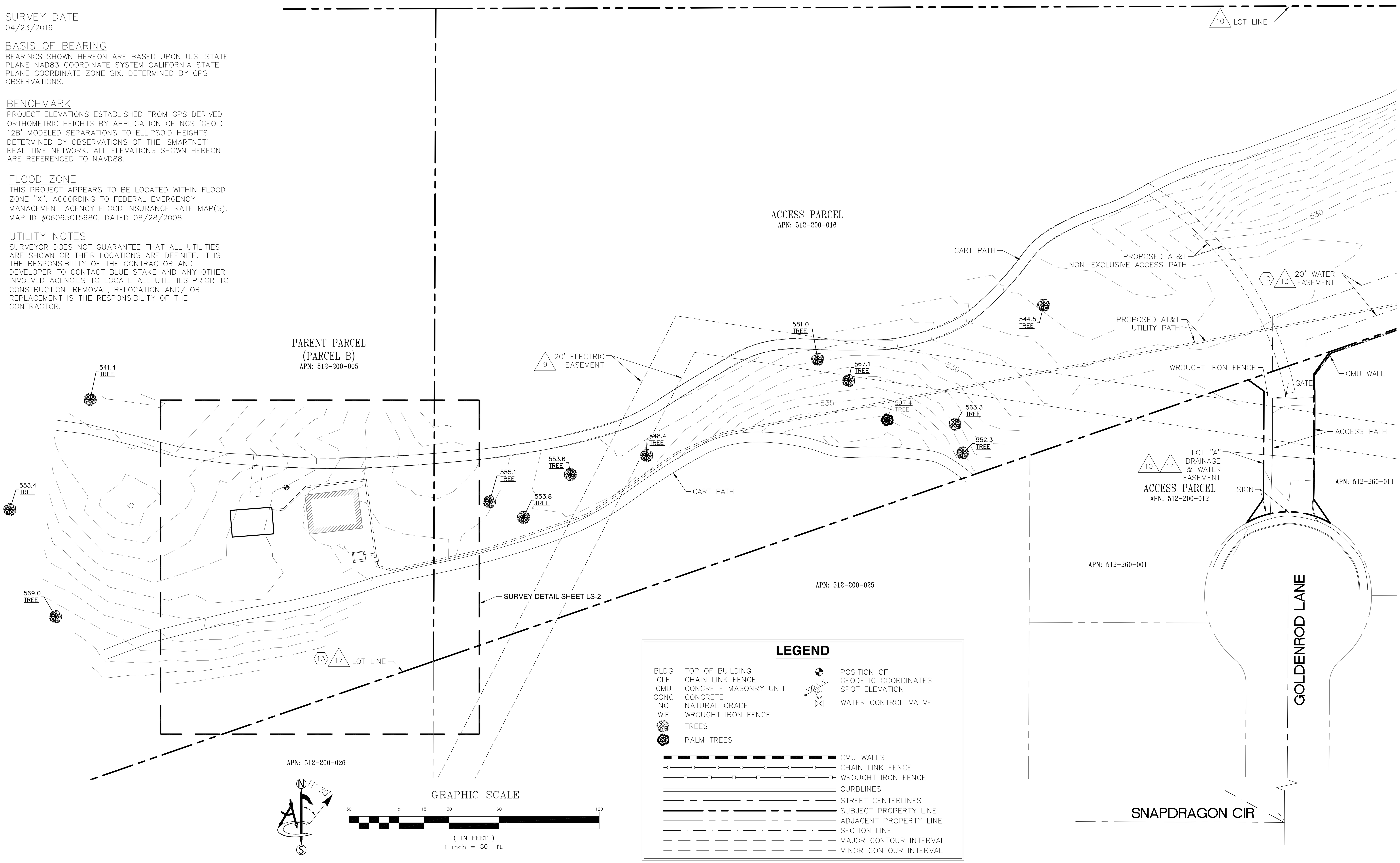
BASIS OF BEARING
BEARINGS SHOWN HEREON ARE BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM CALIFORNIA STATE PLANE COORDINATE ZONE SIX, DETERMINED BY GPS OBSERVATIONS.

BENCHMARK
PROJECT ELEVATIONS ESTABLISHED FROM GPS DERIVED ORTHOMETRIC HEIGHTS BY APPLICATION OF NGS 'GEOID 12B' MODELED SEPARATIONS TO ELLIPSOID HEIGHTS DETERMINED BY OBSERVATIONS OF THE 'SMARTNET' REAL TIME NETWORK. ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO NAVD88.

FLOOD ZONE
THIS PROJECT APPEARS TO BE LOCATED WITHIN FLOOD ZONE "X". ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP(S), MAP ID #06065C1568G, DATED 08/28/2008

UTILITY NOTES
SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS ARE DEFINITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT BLUE STAKE AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. REMOVAL, RELOCATION AND/ OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

POSITION OF GEODETIC COORDINATE
LATITUDE 33° 46' 43.62" (33.778783°) NORTH (NAD83)
LONGITUDE 116° 32' 21.84" (116.539400°)WEST(NAD83)
GROUND ELEVATION @ 530.3' (NAVD88)



at&t

ambit consulting
410 E. SOUTHERN AVE. TEMPE, AZ 85282
PH. (480) 659-4072

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

REV	DATE	DESCRIPTION
F	08/14/20	REVISE UTILITY (C) (CK)
E	05/01/20	ADD TOPO (C) (LO)
D	04/20/20	ADD TOPO (C) (LO)
C	08/20/19	ADD TITLE/DESIGN (C) (LO)
B	06/18/19	LEASE LOCATION (C) (CK)
G	11/04/20	ADDITIONAL TITLE (C) (CK)

LICENSED LAND SURVEYOR
PATRICK B. DONOHOE
No. 9332
STATE OF CALIFORNIA

DATE OF SIGNATURE: 11/06/2020

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL SURVEYOR, TO ALTER THIS DOCUMENT.

CSL06223

1097 E. MURRAY CANYON DRIVE
PALM SPRINGS, CA 92264

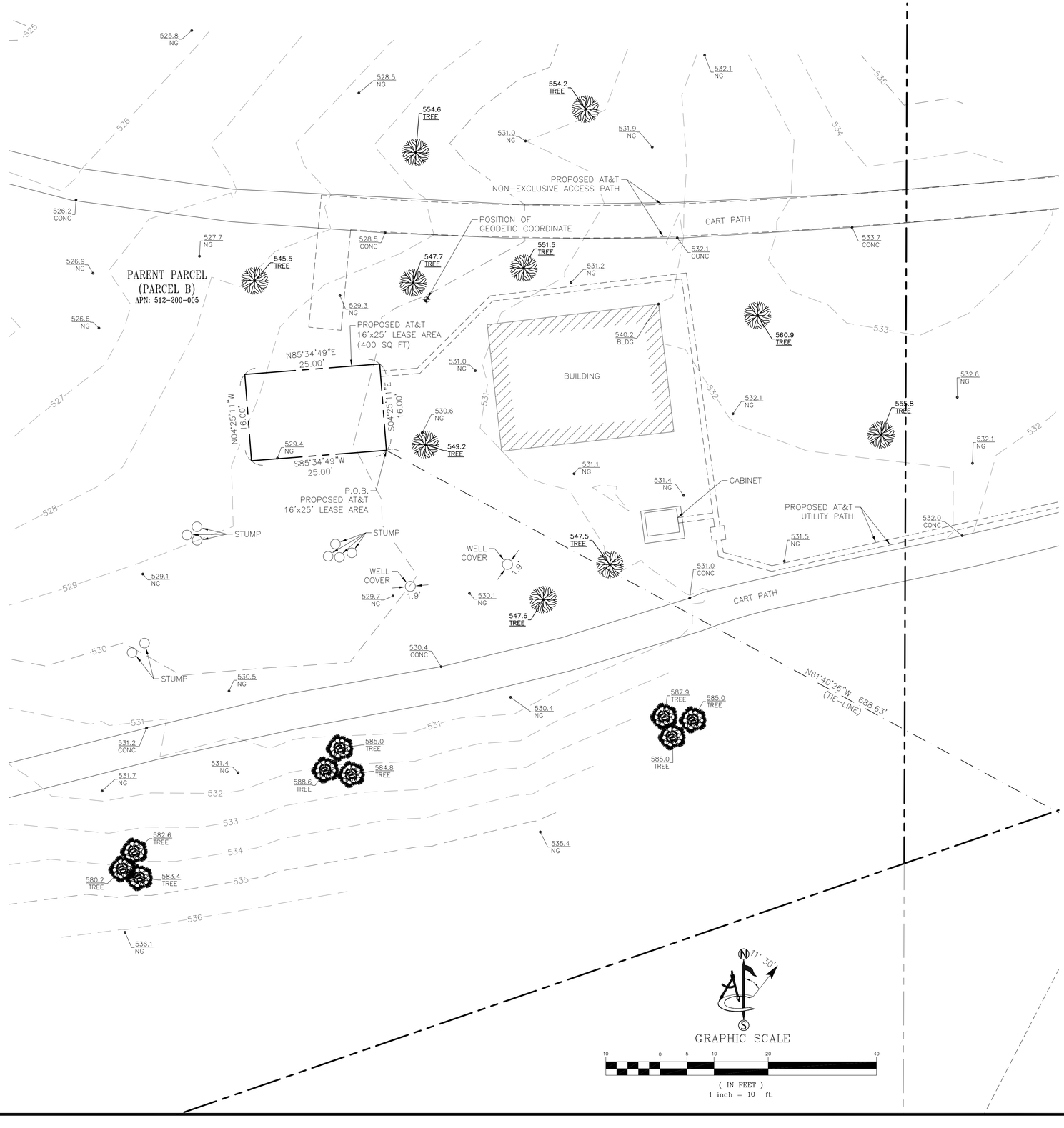
SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS-1

LEASE AREA LEGAL DESCRIPTON

DESCRIPTION FOR AN AT&T 16'x25' LEASE AREA BEING A PORTION OF THE WEST HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 35, TOWNSHIP 4 SOUTH, RANGE 4 EAST, IN THE CITY OF PALM SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE CENTERLINE INTERSECTION OF GOLDENROD LANE AND SNAPDRAGON CIRCLE, FROM WHICH A POINT OF CURVATURE OF THE CENTERLINE OF SAID GOLDENROD LANE BEARS SOUTH 00°14'51" WEST, 491.17 FEET;
THENCE NORTH 61°40'26" WEST, A DISTANCE OF 688.63 FEET TO THE POINT OF BEGINNING;
THENCE SOUTH 85°34'49" WEST, 25.00 FEET;
THENCE NORTH 04°25'11" WEST, 16.00 FEET;
THENCE NORTH 85°34'49" EAST, 25.00 FEET;
THENCE SOUTH 04°25'11" EAST, 16.00 FEET TO THE POINT OF BEGINNING. CONTAINING 400 SQUARE FEET (0.009 ACRES) OF LAND, MORE OR LESS.



LEGEND

BLDG	TOP OF BUILDING		POSITION OF GEODETIC COORDINATES
CLF	CHAIN LINK FENCE		SPOT ELEVATION
CMU	CONCRETE MASONRY UNIT	WV	WATER CONTROL VALVE
CONC	CONCRETE		
NG	NATURAL GRADE		
WIF	WROUGHT IRON FENCE		
	TREES		
	PALM TREES		

- CMU WALLS
- CHAIN LINK FENCE
- WROUGHT IRON FENCE
- CURBLINES
- STREET CENTERLINES
- SUBJECT PROPERTY LINE
- ADJACENT PROPERTY LINE
- SECTION LINE
- MAJOR CONTOUR INTERVAL
- MINOR CONTOUR INTERVAL

at&t

ambit consulting
410 E. SOUTHERN AVE. TEMPE, AZ 85282
PH. (480) 659-4072

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

REV	DATE	DESCRIPTION
F	08/14/20	REVISE UTILITY (C) (CK)
E	05/01/20	ADD TOPO (C) (LO)
D	04/20/20	ADD TOPO (C) (LO)
C	08/20/19	ADD TITLE/DESIGN (C) (LO)
B	06/18/19	LEASE LOCATION (C) (CK)
G	11/04/20	ADDITIONAL TITLE (C) (CK)

LICENSED LAND SURVEYOR
PATRICK B. DONOHOE
No. 9332
STATE OF CALIFORNIA

DATE OF SIGNATURE: 11/06/2020

CSL06223

1097 E. MURRAY CANYON DRIVE
PALM SPRINGS, CA 92264

SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS-2

ACCESS PARCEL NOTES CORRESPONDING TO RECORD SCHEDULE B (APN 512-200-016)

REFERENCE IS MADE TO COMMONWEALTH LAND TITLE INSURANCE COMPANY ORDER NO.: 92009472-920-CMM-CM8, DATED APRIL 16, 2019. ALL EASEMENTS CONTAINED WITHIN SAID GUARANTEE AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED. ITEMS A-C, 1-4, 6 & 12 ARE NOT SURVEY RELATED ITEMS.

5. EASEMENT(S) IN FAVOR OF THE PUBLIC OVER ANY EXISTING ROADS LYING WITHIN SAID LAND.
(NOT SHOWN – EXCEPTION INDETERMINATE)

7. AN AGREEMENT BETWEEN PALM CANYON COUNTRY CLUB, INC. AND CALIFORNIA ELECTRIC POWER COMPANY FOR EASEMENTS FOR UTILITY AND INCIDENTAL PURPOSES ACROSS THE HEREIN DESCRIBED PROPERTY, RECORDED AUGUST 4, 1961 AS INSTRUMENT NO. 66873 OF OFFICIAL RECORDS.
(NOT SHOWN – EXCEPTION INDETERMINATE)

8. A LEASE WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN.
DATED: NOVEMBER 15, 1960
LESSOR: DORA JOYCE PRIETO, ET AL
LESSEE: WYNDFREE COUNTRY CLUB ESTATES, A CALIFORNIA CORPORATION
RECORDING DATE: OCTOBER 11, 1961
RECORDING NO: AS INSTRUMENT NO. 87061 OF OFFICIAL RECORDS
AFFECTS: THE HEREIN DESCRIBED LAND AND OTHER LAND.
AN APPROVAL OF SAID LEASE WAS RECORDED OCTOBER 11, 1961 AS INSTRUMENT NO. 87061 OF OFFICIAL RECORDS, UPON THE TERMS, COVENANTS AND CONDITIONS CONTAINED THEREIN.

SUPPLEMENTAL AGREEMENT NO. 1, DATED FEBRUARY 17, 1961, BY AND BETWEEN SAID PARTIES RECORDED OCTOBER 11, 1961 AS INSTRUMENT NO. 87062 OF OFFICIAL RECORD S, PROVIDES AMONG OTHER THINGS THAT THE TERM OF SAID LEASE SHALL BE FOR A PERIOD OF 70 YEARS, BEGINNING ON FEBRUARY 14, 1961.

SUPPLEMENTAL AGREEMENT NO. 2, DATED JUNE 26, 1962, RECORDED APRIL 24, 1964 AS INSTRUMENT NO. 50623 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS THEREIN PROVIDED.

SUPPLEMENTAL AGREEMENT NO. 3, DATED SEPTEMBER 12, 1962, RECORDED APRIL 24, 1964 AS INSTRUMENT NO. 50624 AND SUPPLEMENTAL AGREEMENT NO . 4 DATED APRIL 1, 1963, RECORDED APRIL 24, 1964 AS INSTRUMENT NO. 50625 OF OFFICIAL RECORDS, PROVIDES AMONG OTHER THINGS TO MODIFY THE LEGAL DESCRIPTION TO THAT AS SHOWN HEREIN.

SUPPLEMENTAL AGREEMENT NO. 5, DATED MARCH 2, 1967, RECORDED NOVEMBER 29, 1967 AS INSTRUMENT NO. 104754 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS THEREIN PROVIDED.

SUPPLEMENTAL AGREEMENT NO. 6, DATED MARCH 15, 1974, RECORDED MARCH 12, 1974 AS INSTRUMENT NO. 28377 OF OFFICIAL RECORDS, RESTATES THE LEASE INCORPORATING ALL PRIOR CHANGES AND MODIFICATIONS SET FORTH IN THE AFORESAID FIVE SUPPLEMENTS.

A SUPPLEMENTAL AGREEMENT DATED MAY 14, 1998, RECORDED MAY 15, 1998 AS INSTRUMENT NO. 195318 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS PROVIDED THEREIN.

A SUPPLEMENTAL AGREEMENT DATED MAY 14, 1998, RECORDED MAY 15, 1998 AS INSTRUMENT NO. 195319 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS PROVIDED THEREIN.
THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN.
(NOT SHOWN – EXCEPTION INDETERMINATE)

9. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: PALM SPRINGS WATER COMPANY
PURPOSE: PIPELINES AND CONDUITS
RECORDING DATE: FEBRUARY 9, 1966
RECORDING NO: AS INSTRUMENT NO. 14922 OF OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND
(AS SHOWN ON SURVEY)

10. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: DESERT WATER AGENCY, A PUBLIC AGENCY
PURPOSE: AN UNDERGROUND PIPELINE OR PIPELINES
RECORDING DATE: OCTOBER 14, 1982
RECORDING NO: AS INSTRUMENT NO. 177576 OF OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND
(AS SHOWN ON SURVEY)

11. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION
PURPOSE: UNDERGROUND ELECTRICAL SUPPLY SYSTEMS
RECORDING DATE: MARCH 13, 1984
RECORDING NO: AS INSTRUMENT NO. 51486 OF OFFICIAL RECORDS
THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD.
(NOT SHOWN – EXCEPTION INDETERMINATE)

13. DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, ENCROACHMENTS, OR ANY OTHER MATTERS SHOWN ON MAP: RECORD OF SURVEY
RECORDING NO: IN BOOK 103, PAGES 85 TO 92 RECORDS OF SURVEY
SAID INSTRUMENT PROVIDES OR ESTABLISHES: A RIGHT OF WAY OF THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT FOR THE PALM CANYON WASH.
(AS SHOWN ON SURVEY)

ACCESS PARCEL NOTES CORRESPONDING TO RECORD SCHEDULE B (APN 512-200-012)

REFERENCE IS MADE TO COMMONWEALTH LAND TITLE INSURANCE COMPANY ORDER NO.: 92010377-920-CMM-CM8, DATED JUNE 26, 2019. ALL EASEMENTS CONTAINED WITHIN SAID GUARANTEE AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED. ITEMS A-C, 1-5, 11, 12, 16 & 18 ARE NOT SURVEY RELATED ITEMS.

6. EASEMENT(S) IN FAVOR OF THE PUBLIC OVER ANY EXISTING ROADS LYING WITHIN SAID LAND.
(NOT SHOWN – EXCEPTION INDETERMINATE)

7. AN AGREEMENT BETWEEN PALM CANYON COUNTRY CLUB, INC. AND CALIFORNIA ELECTRIC POWER COMPANY FOR EASEMENTS FOR UTILITY AND INCIDENTAL PURPOSES ACROSS THE HEREIN DESCRIBED PROPERTY, RECORDED AUGUST 4, 1961 AS INSTRUMENT NO. 66873 OF OFFICIAL RECORDS.
(NOT SHOWN – EXCEPTION INDETERMINATE)

8. A LEASE WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN.
DATED: NOVEMBER 15, 1960
LESSOR: DORA JOYCE PRIETO, ET AL
LESSEE: WYNDFREE COUNTRY CLUB ESTATES, A CALIFORNIA CORPORATION
RECORDING DATE: OCTOBER 11, 1961
RECORDING NO: AS INSTRUMENT NO. 87061 OF OFFICIAL RECORDS
AFFECTS: THE HEREIN DESCRIBED LAND AND OTHER LAND.
AN APPROVAL OF SAID LEASE WAS RECORDED OCTOBER 11, 1961 AS INSTRUMENT NO. 87061 OF OFFICIAL RECORDS, UPON THE TERMS, COVENANTS AND CONDITIONS CONTAINED THEREIN.

SUPPLEMENTAL AGREEMENT NO. 1, DATED FEBRUARY 17, 1961, BY AND BETWEEN SAID PARTIES RECORDED OCTOBER 11, 1961 AS INSTRUMENT NO. 87062 OF OFFICIAL RECORD S, PROVIDES AMONG OTHER THINGS THAT THE TERM OF SAID LEASE SHALL BE FOR A PERIOD OF 70 YEARS, BEGINNING ON FEBRUARY 14, 1961.

SUPPLEMENTAL AGREEMENT NO. 2, DATED JUNE 26, 1962, RECORDED APRIL 24, 1964 AS INSTRUMENT NO. 50623 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS THEREIN PROVIDED.

SUPPLEMENTAL AGREEMENT NO. 3, DATED SEPTEMBER 12, 1962, RECORDED APRIL 24, 1964 AS INSTRUMENT NO. 50624 AND SUPPLEMENTAL AGREEMENT NO . 4 DATED APRIL 1, 1963, RECORDED APRIL 24, 1964 AS INSTRUMENT NO. 50625 OF OFFICIAL RECORDS, PROVIDES AMONG OTHER THINGS TO MODIFY THE LEGAL DESCRIPTION TO THAT AS SHOWN HEREIN.

SUPPLEMENTAL AGREEMENT NO. 5, DATED MARCH 2, 1967, RECORDED NOVEMBER 29, 1967 AS INSTRUMENT NO. 104754 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS THEREIN PROVIDED.

SUPPLEMENTAL AGREEMENT NO. 6, DATED MARCH 15, 1974, RECORDED MARCH 12, 1974 AS INSTRUMENT NO. 28377 OF OFFICIAL RECORDS, RESTATES THE LEASE INCORPORATING ALL PRIOR CHANGES AND MODIFICATIONS SET FORTH IN THE AFORESAID FIVE SUPPLEMENTS.

A SUPPLEMENTAL AGREEMENT DATED MAY 14, 1998, RECORDED MAY 15, 1998 AS INSTRUMENT NO. 195318 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS PROVIDED THEREIN.

A SUPPLEMENTAL AGREEMENT DATED MAY 14, 1998, RECORDED MAY 15, 1998 AS INSTRUMENT NO. 195319 OF OFFICIAL RECORDS, AMENDS SAID LEASE AS PROVIDED THEREIN.
THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN.
(NOT SHOWN – EXCEPTION INDETERMINATE)

9. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION
PURPOSE: UNDERGROUND ELECTRICAL SUPPLY SYSTEMS
RECORDING DATE: SEPTEMBER 13, 1977
RECORDING NO: AS INSTRUMENT NO. 178688, OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND AS MORE PARTICULARLY DESCRIBED IN SAID DOCUMENT.
(AS SHOWN ON SURVEY)

10. A RECITAL OF THE MAP OF TRACT 16149 THAT LOTS A THROUGH E OF SAID TRACT ARE FOR DRAINAGE PURPOSES AND SHALL BE KEPT FREE OF BUILDING AND OBSTRUCTIONS
(AS SHOWN ON SURVEY)

13. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: DESERT WATER AGENCY, A PUBLIC AGENCY
PURPOSE: AN UNDERGROUND PIPELINE OR PIPELINES
RECORDING DATE: OCTOBER 14, 1982
RECORDING NO: AS INSTRUMENT NO. 177576, OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND AS MORE PARTICULARLY DESCRIBED IN SAID DOCUMENT.
(AS SHOWN ON SURVEY)

14. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: DESERT WATER AGENCY, A PUBLIC AGENCY, ITS SUCCESSORS AND ASSIGNS
PURPOSE: PIPELINES AND CONDUITS
RECORDING DATE: OCTOBER 14, 1982
RECORDING NO: AS INSTRUMENT NO. 177577, OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND AS MORE PARTICULARLY DESCRIBED IN SAID DOCUMENT.
(AS SHOWN ON SURVEY)

ACCESS PARCEL NOTES CORRESPONDING TO RECORD SCHEDULE B (APN 512-200-012)

15. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION
PURPOSE: UNDERGROUND ELECTRICAL SUPPLY SYSTEMS
RECORDING DATE: MARCH 13, 1984
RECORDING NO: AS INSTRUMENT NO. 51486, OFFICIAL RECORDS
THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD.
(NOT SHOWN – EXCEPTION INDETERMINATE)

17. DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, ENCROACHMENTS, OR ANY OTHER MATTERS SHOWN ON
MAP: RECORD OF SURVEY
RECORDING NO: IN BOOK 93, PAGES 49 THROUGH 52, RECORDS OF SURVEY
(AS SHOWN ON SURVEY)

19. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: NOTICE AND TERMINATION OF EASEMENT
RECORDING DATE: JANUARY 25, 2000
RECORDING NO: AS INSTRUMENT NO. 2000-026360, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(NOT SHOWN – EXCEPTION INDETERMINATE)

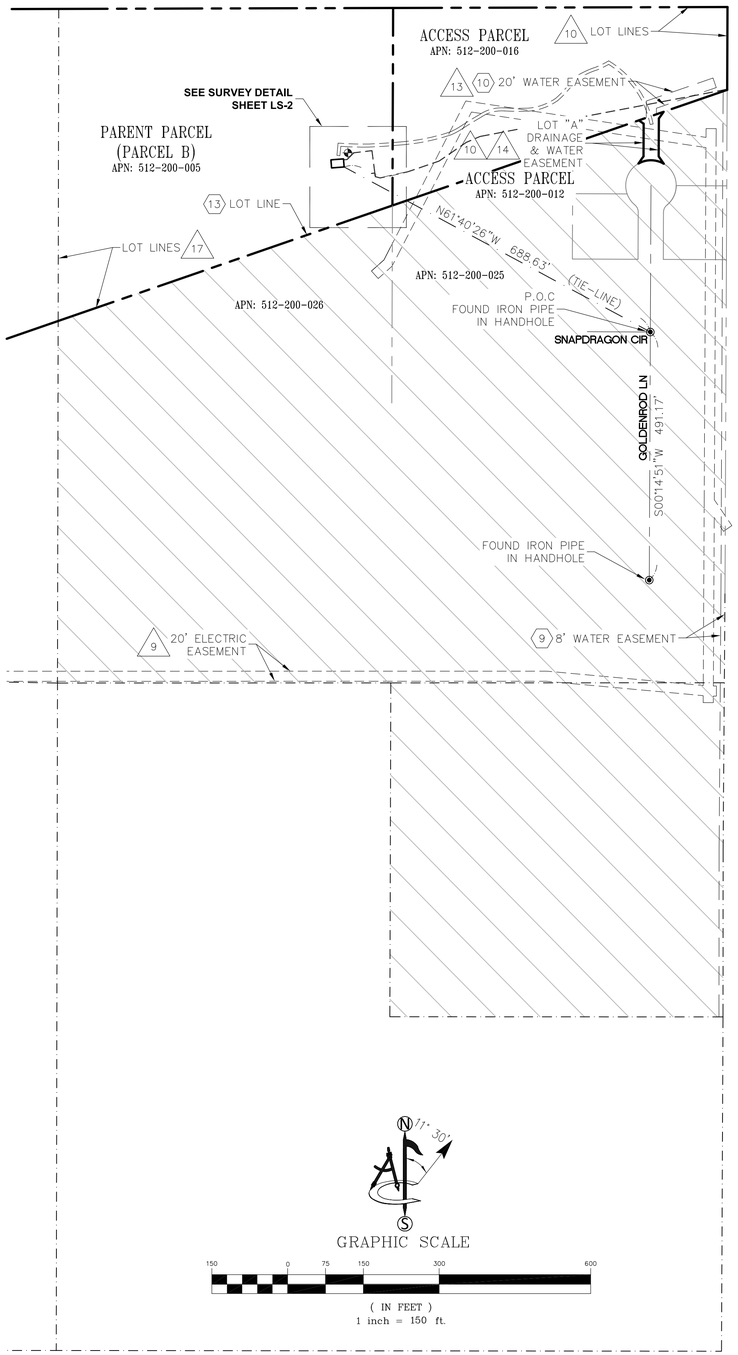
ACCESS PARCEL LEGAL DESCRIPTION (APN 512-200-016)

THE EAST HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 35, TOWNSHIP 4 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE CITY OF PALM SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THEREFROM ALL THE LAND INCLUDED WITHIN TRACT NO. 16149, AS SHOWN ON A MAP RECORDED IN BOOK 116, PAGES 3 THROUGH 8 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ACCESS PARCEL LEGAL DESCRIPTION (APN 512-200-012)

LETTERED LOT "A" OF TRACT NO. 16149, IN THE CITY OF PALM SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 116, PAGES 3 THROUGH 8, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.



LEGEND

EXCEPTED PORTION OF LEGAL DESCRIPTION OF ACCESS PARCEL PER COMMONWEALTH LAND TITLE INSURANCE COMPANY ORDER NO.: 92009472-920-CMM-CM8, DATED APRIL 16, 2019

at&t

ambit consulting
410 E. SOUTHERN AVE. TEMPE, AZ 85282
PH. (480) 659-4072

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

REV	DATE	DESCRIPTION
F	08/14/20	REVISE UTILITY (C) (CK)
E	05/01/20	ADD TOPO (C) (LO)
D	04/20/20	ADD TOPO (C) (LO)
C	08/20/19	ADD TITLE/DESIGN (C) (LO)
B	06/18/19	LEASE LOCATION (C) (CK)
G	11/04/20	ADDITIONAL TITLE (C) (CK)

LICENSED LAND SURVEYOR
PATRICK B. DONOHOE
No. 9332
STATE OF CALIFORNIA

DATE OF SIGNATURE: 11/06/2020

CSL06223

1097 E. MURRAY CANYON DRIVE
PALM SPRINGS, CA 92264

SHEET TITLE
OVERALL SURVEY

SHEET NUMBER
LS-3

LESSOR'S PARCEL NOTES CORRESPONDING TO RECORD SCHEDULE B (APN 512-200-05)

REFERENCE IS MADE TO COMMONWEALTH LAND TITLE INSURANCE COMPANY ORDER NO.: 92009927-920-CMM-CM8, DATED OCTOBER 15, 2020. ALL EASEMENTS CONTAINED WITHIN SAID GUARANTEE AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED.
NOTE: ITEMS 1, 3, & 36-39 ARE NOT SURVEY RELATED ITEMS.
ITEMS 4, 11, 16, 25, AND 26 DO NOT AFFECT PARCEL B AND ARE NOT SHOWN

2. AN EASEMENT OVER A PORTION OF SAID LAND FOR PIPELINES ROADS AND INCIDENTAL PURPOSES AS SHOWN UPON RESURVEY OF TOWNSHIP 4 SOUTH, RANGE 4 EAST, FILED IN THE DISTRICT LAND OFFICE APRIL 5, 1928 AND SUPPLEMENTAL PLAT OF SECTION 35, FILED IN THE DISTRICT LAND OFFICE APRIL 5, 1928. (DOCUMENT NOT PROVIDED - AFFECT UNKNOWN)

5. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT
DATED: NOT SET OUT
EXECUTED BY: PALM CANYON COUNTRY CLUB, INC., A CORPORATION AND CALIFORNIA ELECTRIC POWER COMPANY
RECORDING DATE: AUGUST 4, 1961
RECORDING NO: AS INSTRUMENT NO. 66873 OF OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET IN NATURE)

6. BUSINESS LEASE NO. PSL-47 WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN.
ENTITLED: LEASE NO. PSL-47, CONTRACT NO. 14-20-0550-905
LESSOR: DORA JOYCE PRIETO ET AL
LESSEE: WYNDFREE COUNTRY CLUB ESTATES, A CALIFORNIA CORPORATION
RECORDING DATE: OCTOBER 11, 1961
RECORDING NO: AS INSTRUMENT NO. 87061 OF OFFICIAL RECORDS
THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN (BLANKET IN NATURE)

7. RESERVATIONS, EXCEPTIONS AND PROVISIONS CONTAINED IN THE PATENT FROM THE UNITED STATES OF AMERICA, AND IN THE ACTS AUTHORIZING THE ISSUANCE THEREOF.
RECORDING DATE: NOVEMBER 7, 1962
RECORDING NO: AS INSTRUMENT NO. 103126 OF OFFICIAL RECORDS
AFFECTS: PARCELS A AND B (BLANKET IN NATURE)

8. AN EASEMENT IN FAVOR OF THE PUBLIC OVER THE PORTION THEREOF INCLUDED IN PUBLIC ROADS AS DISCLOSED BY RESURVEY OF TOWNSHIP 4 SOUTH, RANGE 4 EAST, FILED IN THE DISTRICT LAND OFFICE ON APRIL 5, 1928 AND BY SUPPLEMENTAL PLATS OF SECTIONS 26 AND 35 FILED IN THE DISTRICT LAND OFFICE APRIL 5, 1928. (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

9. ANY EASEMENT OR RIGHT OF WAY FOR FLOOD CONTROL PURPOSES, UTILITIES, PIPE LINES, ROADS AND STREETS GRANTED BY THE SECRETARY OF THE INTERIOR AS DISCLOSED BY THE PROCEEDINGS IN AN ACTION ENTITLED CLEMENTE SEGUNDO, ET A., VS. UNITED STATES, ET AL., NO. 11882-WM IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA. (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

10. SUCH RIGHTS AS THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT MAY HAVE FOR A RIGHT OF WAY, AND FOR THE CONSTRUCTION OF A FLOOD CONTROL DIKE IN PALM CANYON WASH, ACROSS TRIBAL AND ALLOTTED LANDS ON THE AGUA CALIENTE RESERVATION, AS DESIGNATED IN APPLICATION OF OCTOBER 6, 1954; APPROVED BY THE BUREAU OF INDIAN AFFAIRS IN WASHINGTON, D.C. ON NOVEMBER 3, 1958 AS SERIAL NO. 14373, OVER THAT PORTION OF SECTION 35, TOWNSHIP 4 SOUTH, RANGE 4 EAST.
AFFECTS: PARCEL B (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

(12) DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, ENCROACHMENTS, OR ANY OTHER MATTERS SHOWN ON
MAP: RECORD OF SURVEY IN BOOK 43, PAGE 16 OF RECORD OF SURVEY (AS SHOWN ON SURVEY)

13. DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, ENCROACHMENTS, OR ANY OTHER MATTERS SHOWN ON
MAP: RECORD OF SURVEY
RECORDING NO: IN BOOK 93, PAGE 49 RECORD OF SURVEY (NOTHING TO PLOT)

14. DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, ENCROACHMENTS, OR ANY OTHER MATTERS SHOWN ON
MAP: RECORD OF SURVEY
RECORDING NO: IN BOOK 103, PAGE 85 RECORD OF SURVEY (NOTHING TO PLOT)

(15) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF PALM SPRINGS
PURPOSE: PUBLIC UTILITY AND ROADWAY PURPOSES
RECORDING DATE: AUGUST 13,1964
RECORDING NO: AS INSTRUMENT NO. 99698 OF OFFICIAL RECORDS
AFFECTS: AS DESCRIBED THEREIN (AS SHOWN ON SURVEY)

17. AN EASEMENT FOR ELECTRIC DISTRIBUTION LINE RIGHT OF WAY 10.00 FEET IN WIDTH APPROVED FEBRUARY 11, 1955 FOR A PERIOD OF 50 YEARS IN ACCORDANCE WITH THE PROVISIONS OF THE ACT OF FEBRUARY 5, 1948 (62. STAT. 17) IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY, AS DISCLOSED BY AN EXAMINATION OF THE RECORDS OF THE BUREAU OF INDIAN AFFAIRS. AFFECTS THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SOUTHWEST QUARTER OF NORTHWEST QUARTER OF SAID SECTION 35. (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

18. AN EASEMENT FOR ROAD RIGHT OF WAY OF VARIABLE WIDTH APPROVED JULY 8, 1968, IN ACCORDANCE WITH THE PROVISIONS OF THE ACT OF FEBRUARY 5, 1948 (62. STAT. 17), IN FAVOR OF THE CITY OF PALM SPRINGS, CALIFORNIA, AS DISCLOSED BY AN EXAMINATION OF THE RECORDS OF THE BUREAU OF INDIAN AFFAIRS. AFFECTS THE SOUTH HALF OF SOUTHWEST QUARTER OF SOUTHWEST QUARTER OF NORTHWEST QUARTER OF SAID SECTION 35. (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

19. AN EASEMENT FOR ELECTRIC DISTRIBUTION LINE RIGHT OF WAY 10.00 FEET IN WIDTH, APPROVED FEBRUARY 11, 1955 FOR A PERIOD OF 50 YEARS, IN ACCORDANCE WITH THE PROVISIONS OF THE ACT OF FEBRUARY 5, 1948 (62 STAT. 17) IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY, OVER AND ACROSS THE NORTHWEST QUARTER OF SOUTHWEST QUARTER, OF SAID SECTION 35, AS DISCLOSED BY AN EXAMINATION OF THE RECORDS OF THE BUREAU OF INDIAN AFFAIRS. (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

20. AN EASEMENT FOR ROAD RIGHT OF WAY OF VARIABLE WIDTH, APPROVED JUNE 7, 1966 IN ACCORDANCE WITH THE PROVISIONS OF THE ACT OF FEBRUARY 5, 1948 (62. STAT. 17) IN FAVOR OF CITY OF PALM SPRINGS, CALIFORNIA, OVER AND ACROSS THE WEST HALF OF NORTHEAST QUARTER OF SOUTHWEST QUARTER AND NORTHWEST QUARTER OF SOUTHWEST QUARTER OF SAID SECTION 35, AS DISCLOSED BY AN EXAMINATION OF THE RECORDS OF THE BUREAU OF INDIAN AFFAIRS. (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

LESSOR'S PARCEL NOTES CORRESPONDING TO RECORD SCHEDULE B (APN 512-200-05)

21. SUBLEASE OF BUSINESS LEASE PSL-47 WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN AS DISCLOSED BY THE DOCUMENT
DATED: MARCH 7, 1964
SUBLESSOR: PALM CANYON COUNTRY CLUB, INC., A CALIFORNIA CORPORATION
SUBLESSEE: COUNTRY CLUB HOTEL COMPANY., A JOINT VENTURE COMPOSED OF DWIGHT INVESTMENT CO., A NEVADA CORPORATION AUTHORIZED TO DO AND DOING BUSINESS AS THE STATE OF CALIFORNIA, COUNTRY CLUB HOTEL, INC., A CALIFORNIA CORPORATION AND GERTZEN HOTEL CO., A CALIFORNIA CORPORATION
RECORDING DATE: SEPTEMBER 4, 1964
RECORDING NO: AS INSTRUMENT NO. 108893 OF OFFICIAL RECORDS
THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN. (BLANKET IN NATURE)

22. THE EFFECT OF THAT CERTAIN DEED TO RESTRICTED INDIAN LAND SPECIAL FORM, FROM STANLEY T. SPIEGELMAN, CONSERVATOR OF THE ESTATE OF ANTHONY JOSEPH ANDREAS, JR., PALM SPRINGS ALLOTTEE NO. 48, TO PAULA ANDREAS, DAUGHTER OF GRANTOR AND ANTHONY JOSEPH ANDREAS, III, SON OF GRANTOR, UNALLOTTED PALM SPRINGS INDIANS AS TENANTS IN COMMON, RECORDED MARCH 29, 1967 AS INSTRUMENT NO. 26269 OF OFFICIAL RECORDS. REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
AFFECTS: AN UNDIVIDED ¼ INTEREST IN A PORTION OF SAID LAND OTHER PROPERTY (NOTHING TO PLOT)

23. THE EFFECT OF THAT CERTAIN DEED TO RESTRICTED INDIAN LAND SPECIAL FORM, FROM STANLEY T. SPIEGELMAN, CONSERVATOR OF THE ESTATES OF PAULA ANDREAS AND ANTHONY JOSEPH ANDREAS, UNALLOTTED PALM SPRINGS INDIANS TO STANLEY T. SPIEGELMAN, CONSERVATOR OF THE ESTATE ANTHONY JOSEPH ANDREAS, JR., PALM SPRINGS ALLOTTEE NO. 48, RECORDED AUGUST 16, 1967 AS INSTRUMENT NO. 71876 OF OFFICIAL RECORDS.
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
AFFECTS: AN UNDIVIDED ¼ INTEREST IN A PORTION OF SAID LAND AND OTHER PROPERTY (NOTHING TO PLOT)

24. AN EASEMENT FOR ELECTRIC DISTRIBUTION LINE RIGHT OF WAY 10.00 FEET IN WIDTH, APPROVED MAY 14, 1970 IN ACCORDANCE WITH THE PROVISIONS OF THE ACT OF FEBRUARY 5, 1948 (62. STAT. 17), IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, OVER AND ACROSS THE WEST HALF OF NORTHEAST QUARTER OF SOUTHWEST QUARTER AND NORTHWEST QUARTER OF SOUTHWEST QUARTER OF SAID SECTION 35, AS DISCLOSED BY AN EXAMINATION OF THE RECORDS OF THE BUREAU OF INDIAN AFFAIRS. (DOCUMENT NOT PROVIDED - AFFECTS UNKNOWN)

(27) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: THE CITY OF PALM SPRINGS
PURPOSE: EQUESTRIAN TRAIL PURPOSES
RECORDING DATE: MAY 1, 1981
RECORDING NO: AS INSTRUMENT NO. 79573 OF OFFICIAL RECORDS
AFFECTS: SAID LAND MORE PARTICULARLY DESCRIBED THEREIN
AND RE-RECORDING DATE: MAY 21, 1981
AND RE-RECORDING NO: AS INSTRUMENT NO. 93190 OF OFFICIAL RECORDS (AS SHOWN ON SURVEY)

LESSOR'S PARCEL NOTES CORRESPONDING TO RECORD SCHEDULE B (APN 512-200-05)

28. THE LAND DESCRIBED HEREIN IS INCLUDED WITHIN A PROJECT AREA OF THE REDEVELOPMENT AGENCY SHOWN BELOW, AND THAT PROCEEDINGS FOR THE REDEVELOPMENT OF SAID PROJECT HAVE BEEN INSTITUTED UNDER THE REDEVELOPMENT LAW (SUCH REDEVELOPMENT TO PROCEED ONLY AFTER THE ADOPTION OF THE REDEVELOPMENT PLAN) AS DISCLOSED BY A DOCUMENT.
REDEVELOPMENT AGENCY: COMMUNITY REDEVELOPMENT AGENCY CITY OF PALM SPRINGS
RECORDING DATE: AUGUST 13, 1991
RECORDING NO: AS INSTRUMENT NO. 277367 OF OFFICIAL RECORDS (BLANKET IN NATURE)

29. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: DEVELOPMENT AGREEMENT
DATED: NOT SET OUT
EXECUTED BY: CITY OF PALM SPRINGS AND CANYON DEVELOPMENT, A CALIFORNIA GENERAL PARTNERSHIP
RECORDING DATE: JUNE 9, 1994
RECORDING NO: AS INSTRUMENT NO. 94-0235613 OF OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
AND RE-RECORDING DATE: JULY 7, 1994
AND RE-RECORDING NO: AS INSTRUMENT NO. 94-0272557 OF OFFICIAL RECORDS
REASON: BEING RE RECORDED TO REFLECT THE DATE OF AGREEMENT (BLANKET IN NATURE)

30. AMENDED AND RESTATED LEASE PSL-47, SUPPLEMENT 7
DATED: MAY 14, 1998
LESSOR: LEONARD J. SAUBEL, SR., ET AL
LESSEE: AGUA CALIENTE DEVELOPMENT AUTHORITY, AN ENTITY OF THE AGUA CALIENTE BAND OF CAHUILLA INDIANS
RECORDING DATE: MAY 15, 1998
RECORDING NO: AS INSTRUMENT NO. 98-195318 OF OFFICIAL RECORDS
THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN. (BLANKET IN NATURE)

31. THIS AMENDED AND RESTATED LEASE PSL-47(A)
DATED: MAY 14, 1998
LESSOR: LEONARD J. SAUBEL, SR., ET AL
LESSEE: AGUA CALIENTE DEVELOPMENT AUTHORITY, AN ENTITY OF THE AGUA CALIENTE BAND OF CAHUILLA INDIANS
RECORDING DATE: MAY 15, 1998
RECORDING NO: AS INSTRUMENT NO. 98-0195319 OF OFFICIAL RECORDS
THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN. (BLANKET IN NATURE)

32. THE EFFECT OF A GRANT DEED FROM JOHN DAMON ANDREAS TO THE UNITED STATES OF AMERICA IN TRUST FOR JOHN DAMON ANDREAS, RECORDED SEPTEMBER 27, 2001 AS INSTRUMENT NO. 2001-0467531 OF OFFICIAL RECORDS.
AFFECTS: AN UNDIVIDED ¼ INTEREST IN A PORTION OF SAID LAND AND OTHER PROPERTY (BLANKET IN NATURE)

LESSOR'S PARCEL NOTES CORRESPONDING TO RECORD SCHEDULE B (APN 512-200-05)

33. THE EFFECT OF A QUITCLAIM DEED FROM GILBERT TORO, AN UNMARRIED MAN, TO DEANNA MARIE ANDREAS, RECORDED SEPTEMBER 27, 2001 AS INSTRUMENT NO. 2001-0467532 OF OFFICIAL RECORDS.
AFFECTS: A PORTION OF SAID LAND AND OTHER PROPERTY (BLANKET IN NATURE)

34. THE EFFECT OF A GRANT DEED FROM DEANNA MARIE ANDREAS TO THE UNITED STATES OF AMERICA IN TRUST FOR DEANNA MARIE ANDREAS, RECORDED SEPTEMBER 27, 2001 AS INSTRUMENT NO. 2001-0467533 OF OFFICIAL RECORDS.
AFFECTS: AN UNDIVIDED ¼ INTEREST IN A PORTION OF SAID LAND AND OTHER PROPERTY (BLANKET IN NATURE)

PARENT PARCEL LEGAL DESCRIPTION (PARCEL B PER TITLE ORDER #92009927-920-CMM-CM8)

NOTE: ONLY PARCEL B IN SAID REPORT IS LISTED AND SHOWN ON SURVEY

THE WEST HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER AND THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 35, TOWNSHIP 4 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE CITY OF PALM SPRINGS, COUNTY RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

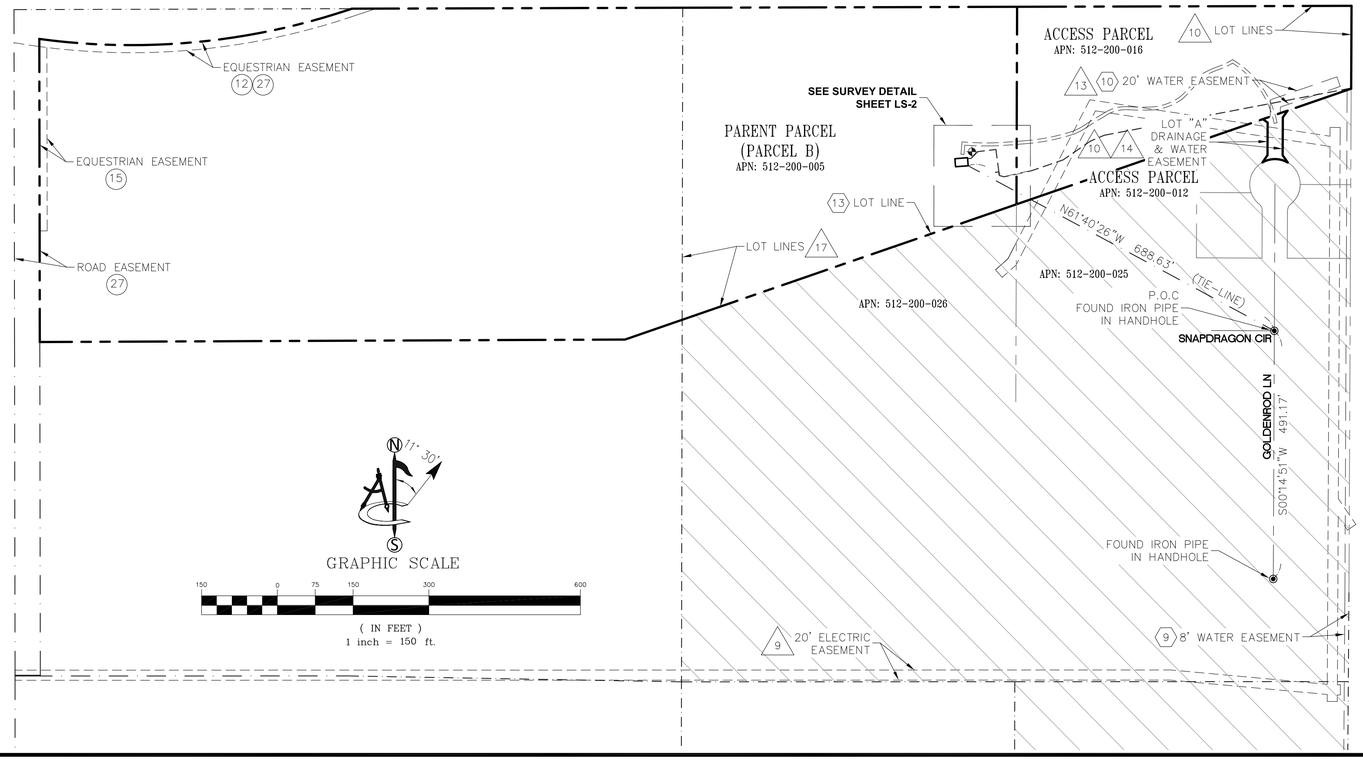
ALSO A PORTION OF PROPERTY QUITCLAIM FROM THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT TO UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF
INDIAN AFFAIRS IN A QUITCLAIM DEED RECORDED AUGUST 11, 2004 AS INSTRUMENT NO. 2004-0626855 OF OFFICIAL RECORDS.

EXCEPTING THEREFROM THAT PORTION LYING SOUTHERLY OF THE NORTHERLY LINE OF TRACT NO. 16149, AS SHOWN BY MAP ON FILE IN BOOK 116, PAGES 3 THROUGH 8 OF MAPS, RECORDS OF
RIVERSIDE COUNTY, CALIFORNIA.

ALSO EXCEPTING THEREFROM ANY PORTION LYING IN PARCEL "A" ABOVE.

LEGEND

EXCEPTED PORTION OF LEGAL DESCRIPTION OF ACCESS PARCEL PER COMMONWEALTH LAND TITLE INSURANCE COMPANY ORDER NO.: 92009472-920-CMM-CM8, DATED APRIL 16, 2019



at&t

ambit consulting
410 E. SOUTHERN AVE. TEMPE, AZ 85282
PH. (480) 659-4072

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

REV	DATE	DESCRIPTION
F	08/14/20	REVISE UTILITY (C) (CK)
E	05/01/20	ADD TOPO (C) (LO)
D	04/20/20	ADD TOPO (C) (LO)
C	08/20/19	ADD TITLE/DESIGN (C) (LO)
B	06/18/19	LEASE LOCATION (C) (CK)
G	11/04/20	ADDITIONAL TITLE (C) (CK)

LICENSED LAND SURVEYOR
PATRICK B. DONOHOE
No. 9332
STATE OF CALIFORNIA

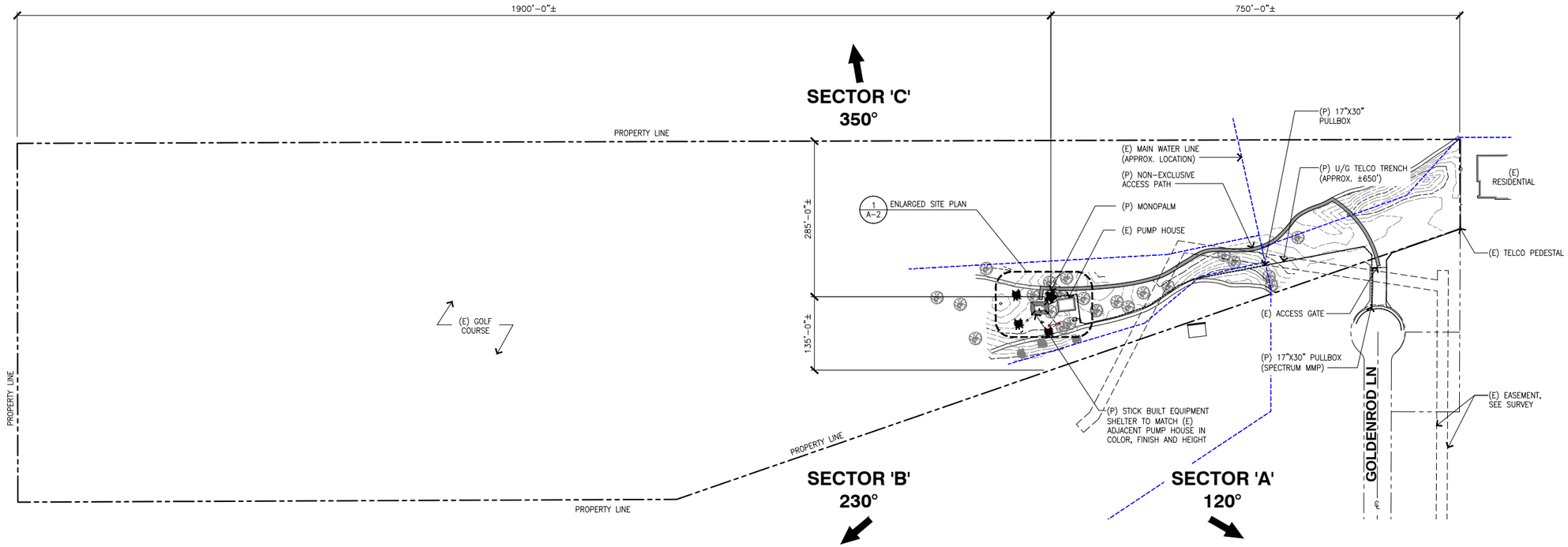
DATE OF SIGNATURE: 11/06/2020

CSL06223

1097 E. MURRAY CANYON DRIVE
PALM SPRINGS, CA 92264

SHEET TITLE
OVERALL SURVEY

SHEET NUMBER
LS-4



NOTES:

- UTILITY INFO IS PRELIMINARY AND WILL BE DETERMINED BY THE FINAL UTILITY COORDINATION.

NORTH

SITE PLAN

SCALE: 1"=100'-0" (50' 100' 200')

1

AT&T
1452 EDINGER AVE., 3RD FLOOR
TUSTIN, CALIFORNIA 92780

J5 INFRASTRUCTURE PARTNERS
2030 MAIN ST. SUITE 200
IRVINE, CA. 92614

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

REV	DATE	DESCRIPTION
6	11/09/20	REVISED PER NEW TITLE
5	06/25/20	NEW WELL DESIGN
4	02/21/20	NEW POLE DESIGN/LANDSCAPE
3	08/15/19	NEW POLE LOCATION PER RF
2	06/20/19	NEW LEASE AREA LOCATION
1	05/03/19	REVISED ZDs
0	04/12/19	100% ZONING DRAWINGS
A	03/28/19	90% ZONING DRAWINGS

NOT TO BE USED FOR CONSTRUCTION

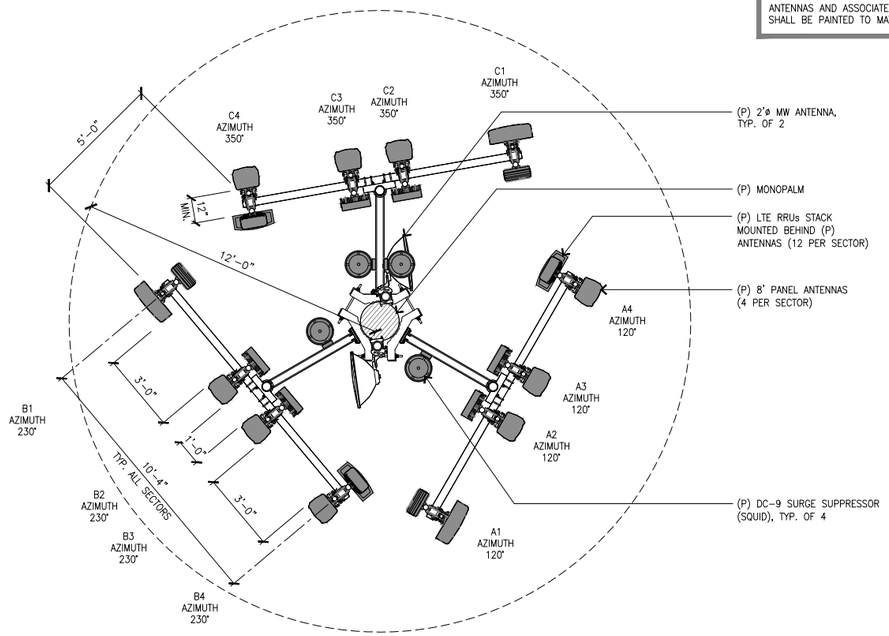
CSL06223
AGUA CALIENTE
BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR.
PALM SPRINGS, CA. 92264

SHEET TITLE
SITE PLAN

SHEET NUMBER
A-1

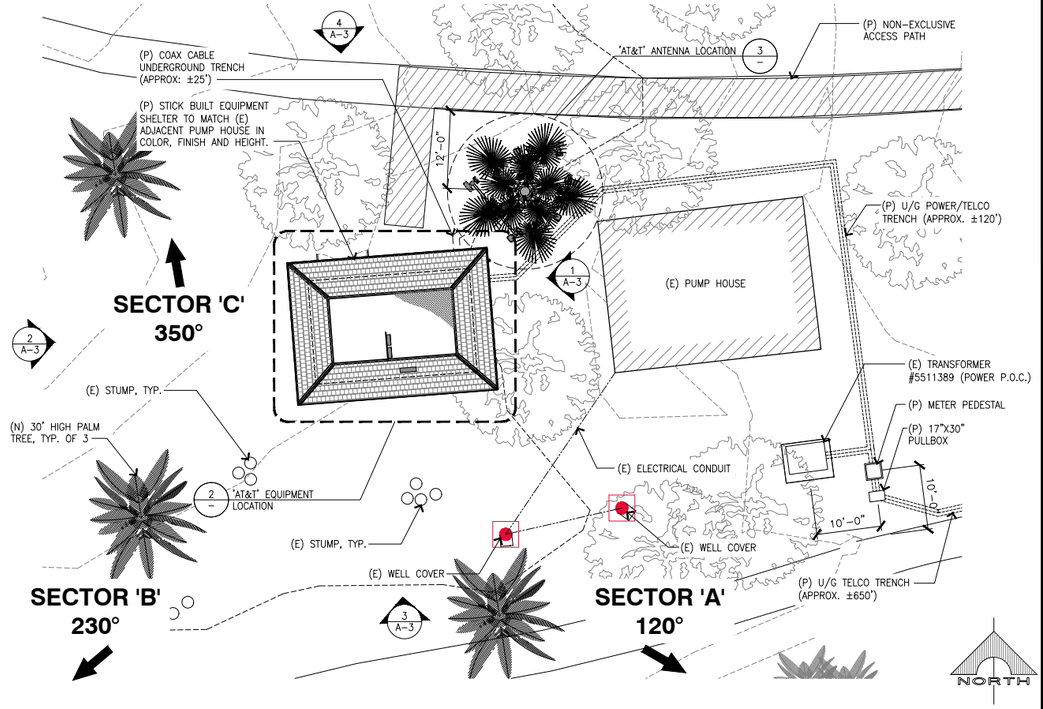
NOTES:

ANTENNAS AND ASSOCIATED EQUIPMENT SHALL BE PAINTED TO MATCH THE TREE.



ANTENNA PLAN

SCALE: 1/4"=1'-0" | 3



ENLARGED SITE PLAN

SCALE: 3/32"=1'-0" | 1

PROPOSED ANTENNA AND TRANSMISSION CABLE REQUIREMENTS

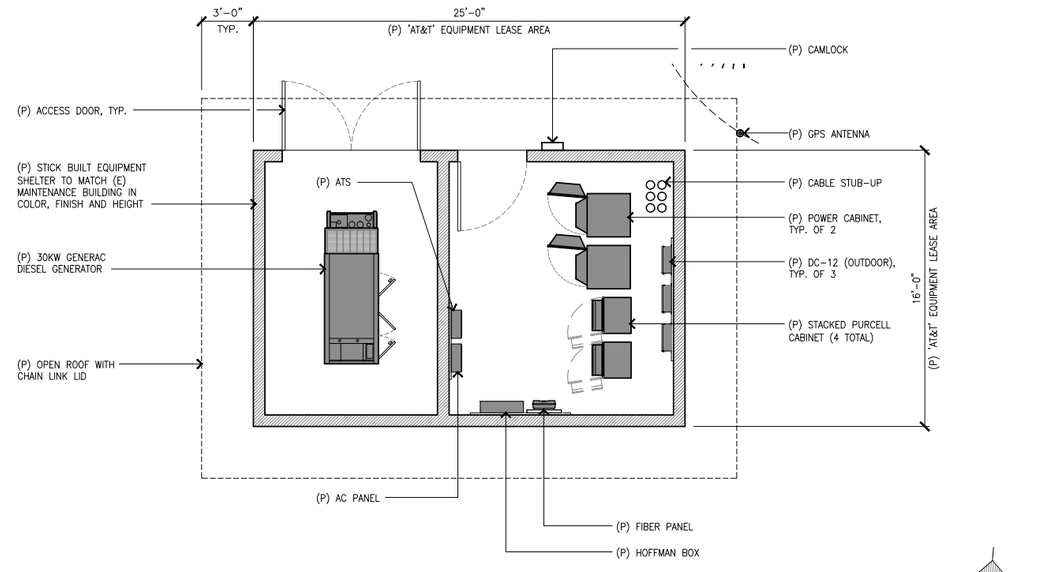
SECTOR		PROPOSED TECHNOLOGY	ANTENNA		ANTENNA AZIMUTH	RAD CENTER	TRANSMISSION LINES (LENGTH FT +/-)	
			AIR/HEX/8-PORT	SIZE (4'; 6'; 8')			JUMPER	DC CABLE (AWG #8)
ALPHA SECTOR	A1	LTE	KATHREIN 800-10966K	8'	120°	50'-0"	<12'	+/- 130'
	A2	LTE	QUINTEL QS8658-3E	8'	120°	50'-0"	<12'	+/- 130'
	A3	LTE	QUINTEL QS8658-3E	8'	120°	50'-0"	<12'	+/- 130'
	A4	LTE	QUINTEL QS8658-3E	8'	120°	50'-0"	<12'	+/- 130'
BETA SECTOR	B1	LTE	KATHREIN 800-10966K	8'	230°	50'-0"	<12'	+/- 130'
	B2	LTE	QUINTEL QS8658-3E	8'	230°	50'-0"	<12'	+/- 130'
	B3	LTE	QUINTEL QS8658-3E	8'	230°	50'-0"	<12'	+/- 130'
	B4	LTE	QUINTEL QS8658-3E	8'	230°	50'-0"	<12'	+/- 130'
GAMMA SECTOR	C1	LTE	KATHREIN 800-10966K	8'	350°	50'-0"	<12'	+/- 130'
	C2	LTE	QUINTEL QS8658-3E	8'	350°	50'-0"	<12'	+/- 130'
	C3	LTE	QUINTEL QS8658-3E	8'	350°	50'-0"	<12'	+/- 130'
	C4	LTE	QUINTEL QS8658-3E	8'	350°	50'-0"	<12'	+/- 130'

REMOTE RADIO UNITS (RRU'S)

SECTOR		RRU UP OR DOWN	RRU COUNT	RRU LOCATION (DISTANCE FROM ANTENNA)	MINIMUM CLEARANCES		
					ABOVE	BELOW	SIDES
ALPHA SECTOR	A1	RRUS 4449 B7/B12	1	<12'	18"	8"	8"
	A1	RRUS 8843 B66	1	<12'	18"	8"	8"
	A3	RRUS 4478 B14	1	<12'	18"	8"	8"
	A4	RRUS-E2	1	<12'	18"	8"	8"
	A4	RRUS 4415 B30	1	<12'	18"	8"	8"
BETA SECTOR	B1	RRUS 4449 B7/B12	1	<12'	18"	8"	8"
	B1	RRUS 8843 B66	1	<12'	18"	8"	8"
	B3	RRUS 4478 B14	1	<12'	18"	8"	8"
	B4	RRUS-E2	1	<12'	18"	8"	8"
	B4	RRUS 4415 B30	1	<12'	18"	8"	8"
GAMMA SECTOR	C1	RRUS 4449 B7/B12	1	<12'	18"	8"	8"
	C1	RRUS 8843 B66	1	<12'	18"	8"	8"
	C3	RRUS 4478 B14	1	<12'	18"	8"	8"
	C4	RRUS-E2	1	<12'	18"	8"	8"
	C4	RRUS 4415 B30	1	<12'	18"	8"	8"

ANTENNA/RRUS SCHEDULE

4



EQUIPMENT PLAN

SCALE: 1/4"=1'-0" | 2

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INFRASTRUCTURE PARTNERS
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IRVINE, CA. 92614

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

REV	DATE	DESCRIPTION
6	11/09/20	REVISED PER NEW TITLE
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0	04/12/19	100% ZONING DRAWINGS
A	03/28/19	90% ZONING DRAWINGS

NOT TO BE USED FOR CONSTRUCTION

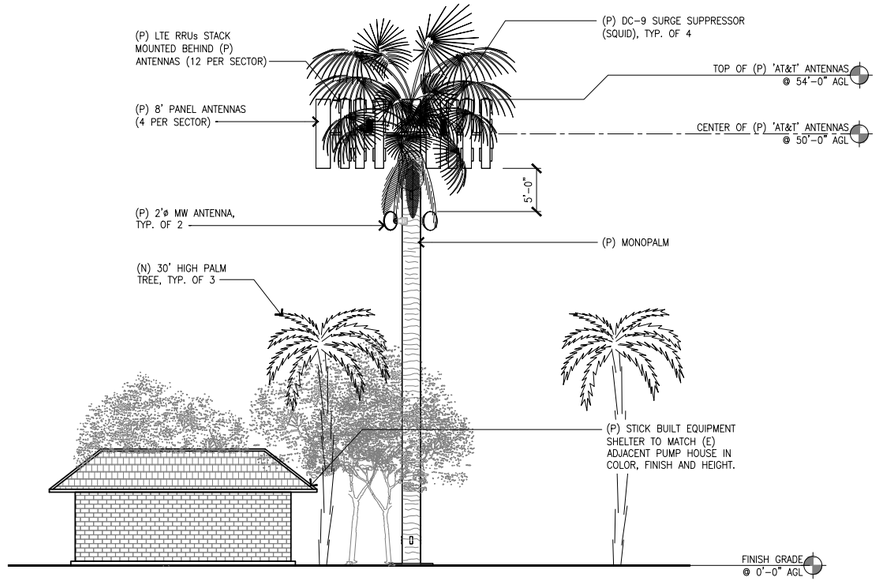
CSL06223
AGUA CALIENTE
BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR.
PALM SPRINGS, CA. 92264

SHEET TITLE

ENLARGED SITE PLAN, EQUIPMENT/ ANTENNA PLAN, ANTENNA/RRUS SCHEDULE

SHEET NUMBER

A-2

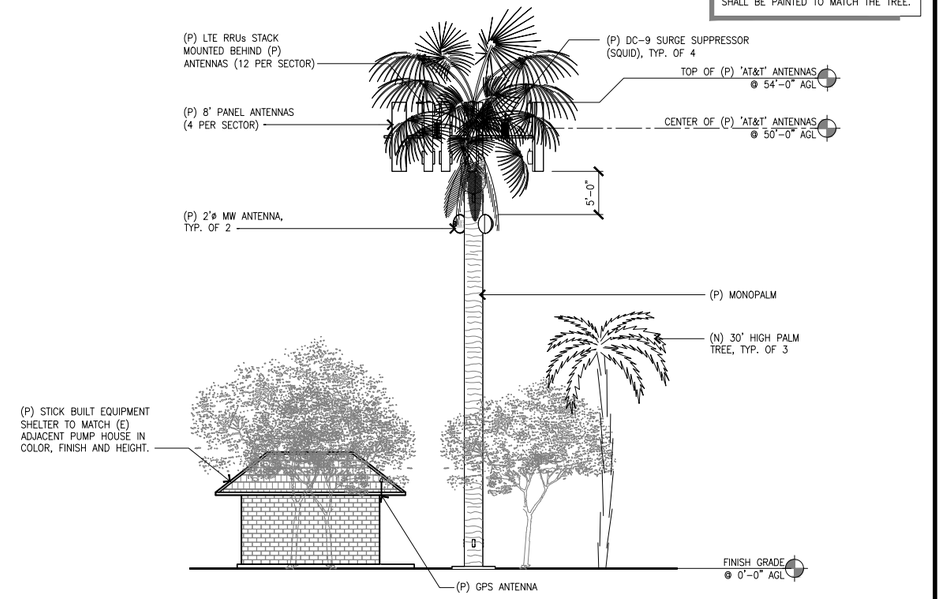


SOUTH ELEVATION

SCALE: 1/8"=1'-0" | 3

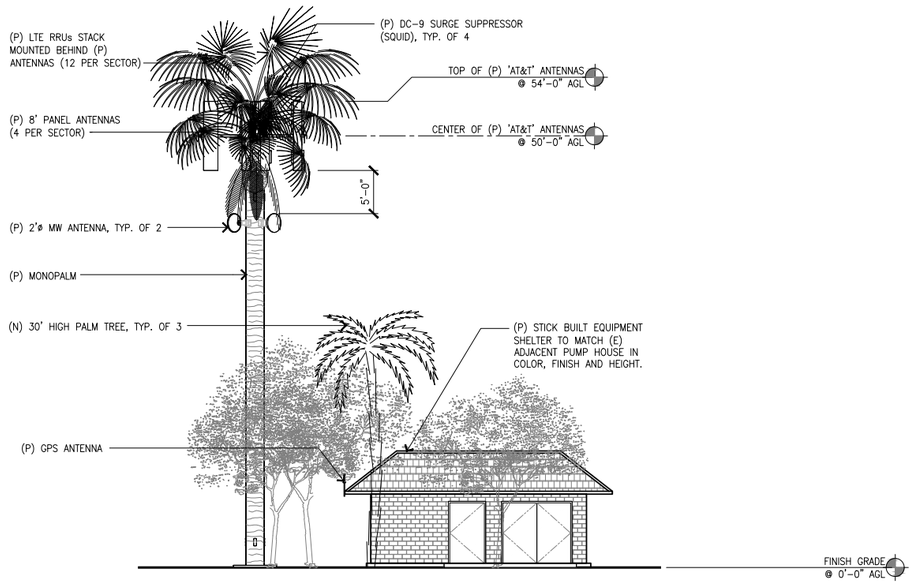
NOTES:

ANTENNAS AND ASSOCIATED EQUIPMENT SHALL BE PAINTED TO MATCH THE TREE.



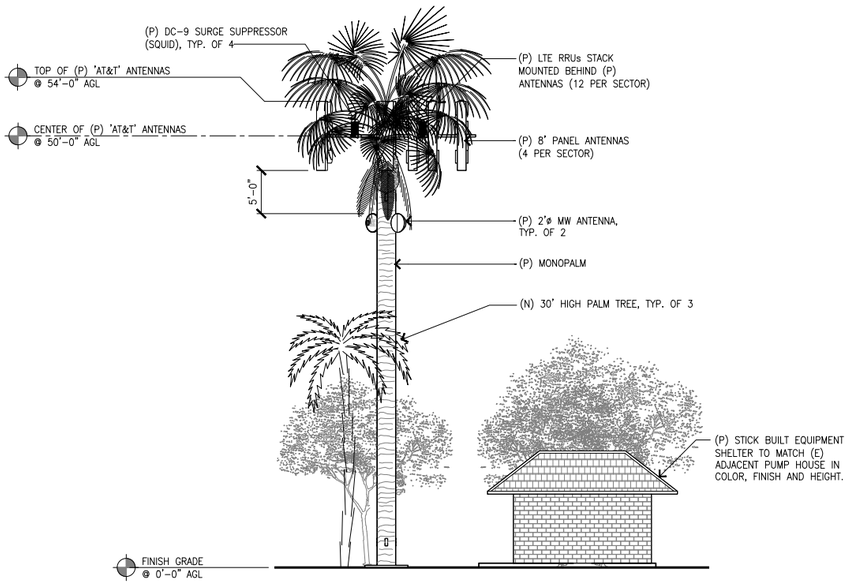
EAST ELEVATION

SCALE: 1/8"=1'-0" | 1



NORTH ELEVATION

SCALE: 1/8"=1'-0" | 4



WEST ELEVATION

SCALE: 1/8"=1'-0" | 2

AT&T
1452 EDINGER AVE., 3RD FLOOR
TUSTIN, CALIFORNIA 92780

INFRASTRUCTURE PARTNERS
2030 MAIN ST. SUITE 200
IRVINE, CA. 92614

CASA INDUSTRIES
9926 PIONEER BLVD. #105
SANTA FE SPRINGS, CALIFORNIA 90670

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NOT TO BE USED FOR CONSTRUCTION

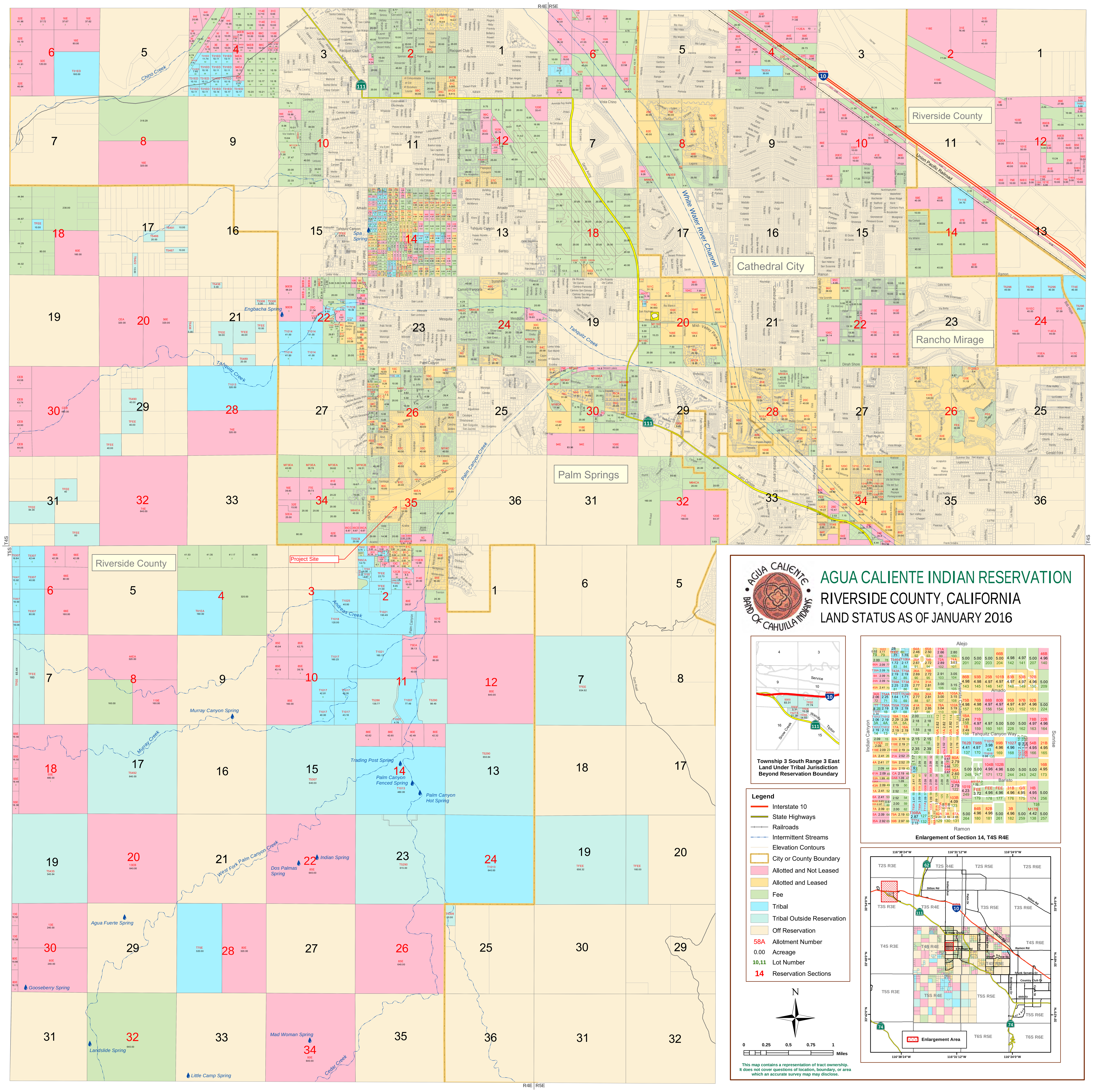
CSL06223
AGUA CALIENTE
BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR.
PALM SPRINGS, CA. 92264

SHEET TITLE

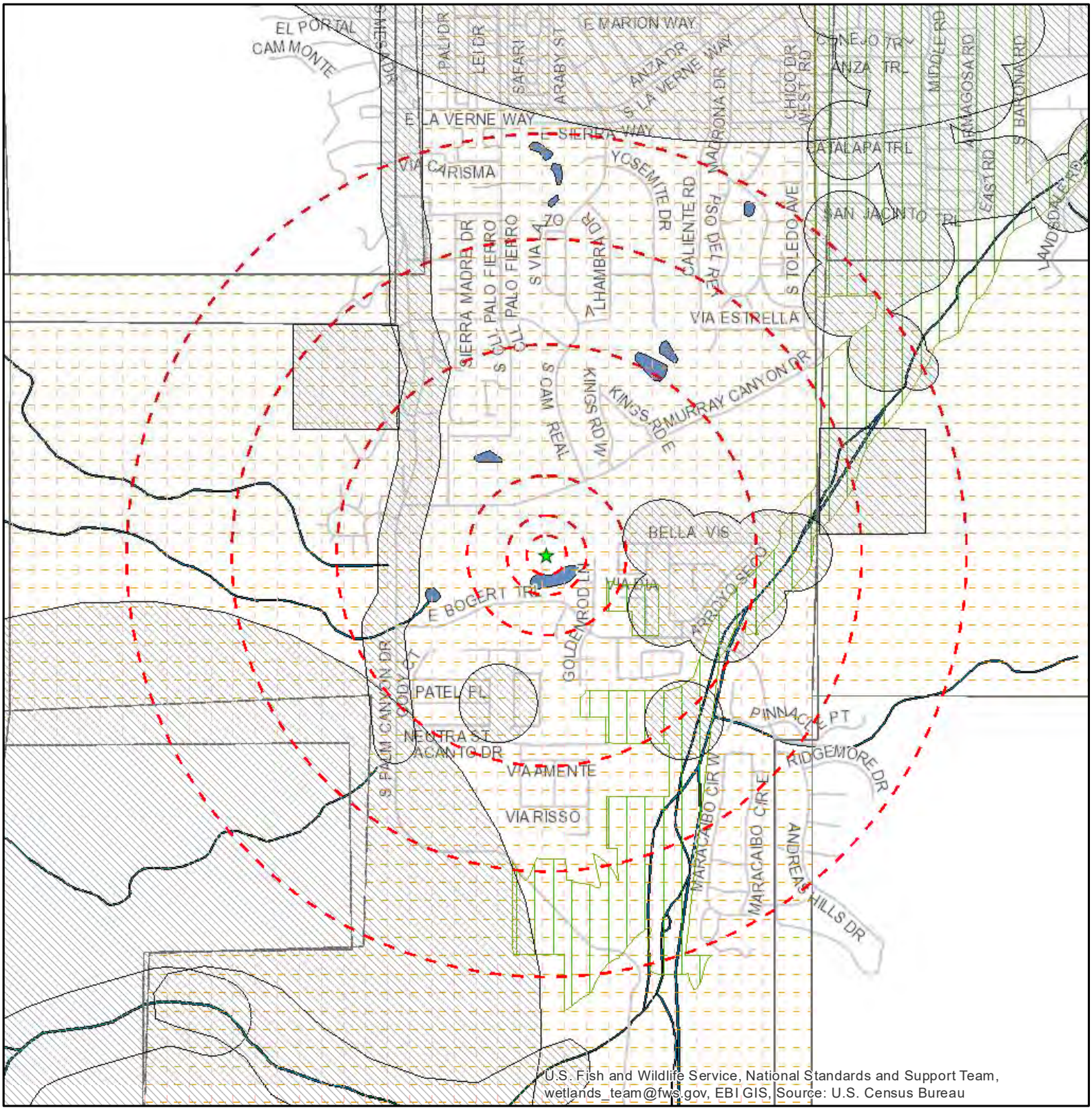
ELEVATIONS

SHEET NUMBER

A-3



AGUA CALIENTE BAND OF CAHUILLA INDIANS
AGUA CALIENTE INDIAN RESERVATION
RIVERSIDE COUNTY, CALIFORNIA
LAND STATUS AS OF JANUARY 2016
Township 3 South Range 3 East Land Under Tribal Jurisdiction Beyond Reservation Boundary
Enlargement of Section 14, T4S R4E
Legend
Interstate 10
State Highways
Railroads
Intermittent Streams
Elevation Contours
City or County Boundary
Allotted and Not Leased
Allotted and Leased
Fee
Tribal
Tribal Outside Reservation
Off Reservation
58A Allotment Number
0.00 Acreage
10,11 Lot Number
14 Reservation Sections
N
0 0.25 0.5 0.75 1 Miles
This map contains a representation of tract ownership. It does not cover questions of location, boundary, or area which an accurate survey map may disclose.
Enlargement Area
Riverside County
Cathedral City
Rancho Mirage
Palm Springs
Project Site
Union Pacific Railroad
White Water River Channel
Tahquitz Creek
Chino Creek
Palm Canyon Creek
Andreas Creek
Murray Creek
West Fork Palm Canyon Creek
Cedar Creek
Spa Spring
Engbacha Spring
Murray Canyon Spring
Trading Post Spring
Palm Canyon Fenced Spring
Palm Canyon Hot Spring
Indian Spring
Dos Palmas Spring
Agua Fuerte Spring
Gooseberry Spring
Landslide Spring
Little Camp Spring
Mad Woman Spring
R4E R5E
T4S T5S



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, EBI GIS, Source: U.S. Census Bureau

Legend

* See associated map legend for additional source information.

★ Project Site

Site Radius at 250', 500', 1000', ½, ¾ & 1 mile

Date: 2/12/2021

Land Resources Map

CSL06223 FA 13025562 AGUA CALIENTE BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR
PALM SPRINGS, CALIFORNIA 92264

PN: 6121000528

EBI Consulting
environmental | engineering | design

Land Resources Legend

Scenic Parkways, Rivers & Trails

- National Scenic Parkway
- National Park Service Trail / Appalachian Trail
- AZ - BLM Historic Trail
- CT - DEP Trail
- MT- Lewis & Clark Trail
- NY - Trails
- NY - Scenic Landmark Area
- NY - Statewide Area of Scenic Significance
- National Wild, Scenic River
- State Wild, Scenic, Protected River
- PA - Scenic River

Sources: National Park Service http://www.nps.gov/gis/data_info/ ; Bureau of land management http://www.blm.gov/wo/st/en.html ; CT DEP http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707%20 ; NY GIS Clearinghouse http://gis.ny.gov/ ; National W & S Rivers http://www.rivers.gov/rivers/mapping-gis.php ; Montana GIS http://nris.mt.gov/gis ; State rivers data from state government and protection agencies.

State Conservation, Lands & Wildlife Areas

- CT - DEP Property
- CO - Public Access Wildlife Area
- FL - Wildlife Management Area
- MT - National Wildlife Refuge
- NH - WMNF Management Area
- ME - Conservation Land
- TN - Wildlife Resource Land
- TX - State Park or Wildlife Mgt Area
- TX - Audubon Sanctuary
- CT - DEP Municipal and Open Space
- NH - Conservation Land
- NY - DEC State Lands
- NY - Agricultural District

Sources: CT DEP http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707%20 CO Wildlife Space http://ndis.nrel.colostate.edu/ftp/ftp_response.asp ; Florida Fish and Wildlife www.MyFWC.com ; Montana GIS http://nris.mt.gov/gis ; NH GRANIT ttp://www.granit.unh.edu/data/downloadfreedata ; ME GIS http://megis.maine.gov/catalog ; TN GIS http://www.state.tn.us/environment/parks/gis/data/ ; TX GIS http://www.glo.state.tx.us/nri/data/index.html ; NY GIS Clearinghouse http://gis.ny.gov/

US FWS NWI Wetland Type

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

State Endangered Threatened & Protected Species

- AZ - Areas of Environmental Concern
- CA - Spotted Owl Territory
- CA - NDDB T & E Species
- CT - NDDB Area Feature
- CT - DEP Critical Habitat
- MA - NHESP Estimated Habitats of Rare Wildlife
- TX - Protected Species
- MA - NHESP Priority Habitats of Rare Species
- FL - Conservation Species
- MA - NHESP Certified Vernal Pool
- ME - Vernal Pool
- NY - Important Bird Area
- TX - Ecologically Unique Rivers Streams

Sources: AZ BLM Page http://www.blm.gov/az/st/en/prog/maps/gis_files.html ; CNDDB http://www.dfg.ca.gov/biogeodata/cnddb/ ; CT DEP http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707%20 ; MAGIS http://www.mass.gov/mgis/laylist.htm ; TX GIS http://www.glo.state.tx.us/nri/data/index.html ; Florida Fish and Wildlife www.MyFWC.com; NY GIS Clearinghouse http://gis.ny.gov/

Federal & National Coverage Data Layers

- USFWS Critical Habitat
- USFWS Critical Habitat Area
- National Park Service Land
- National Wildlife Area or Refuge
- BIA Indian Lands
- Federally Owned Land
- National Wilderness Areas
- National Park Service Site

Sources: National Park Service http://www.nps.gov/gis/data_info/ ; USFWS http://crithab.fws.gov/ ; National Park Service http://science.nature.nps.gov/nrdata/index.cfm ; The National Map http://nationalmap.gov/ ; USFW Wildlife Refuge System http://www.fws.gov/refuges/ ; Wilderness.net http://www.wilderness.net/ ;

EBI Consulting
environmental | engineering | due diligence

National Flood Hazard Layer FIRMette

FEMA

116°32'41"W 33°46'58"N

116°32'3"W 33°46'28"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

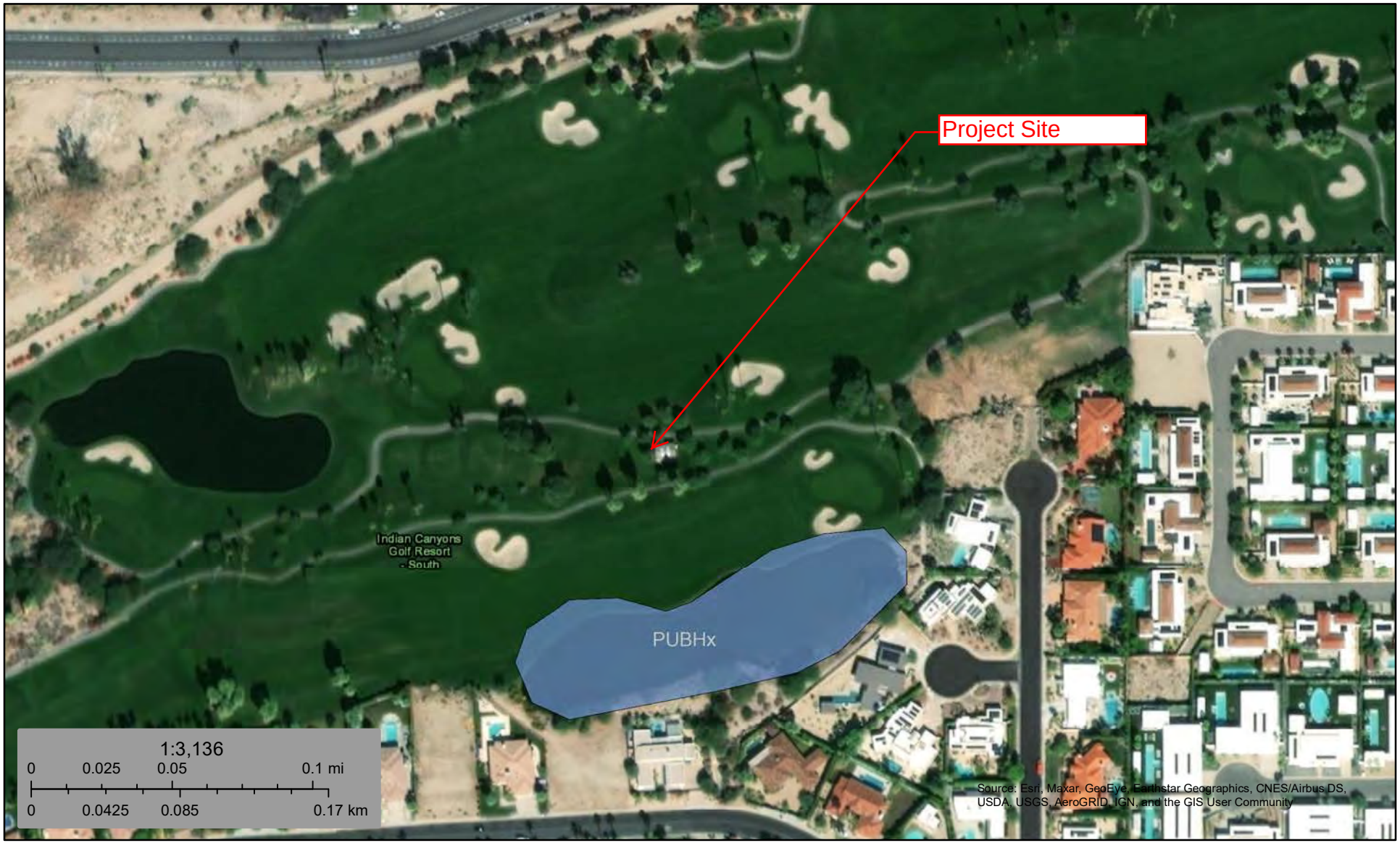
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/1/2021 at 4:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands



February 1, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Search

Soil Reports

Open All | Close All

AOI Inventory

- Component Description (Nontechnical)
- Component Legend
- Component Text Descriptions
- Descripción de la Unidad de Mapa
- Descripción de la Unidad de Mapa (Breve, Generada)
- Legend
- Map Unit Description
- **Map Unit Description (Brief, Generated)**

View Description | View Soil Report

Options

This report has no options.

View Description | View Soil Report

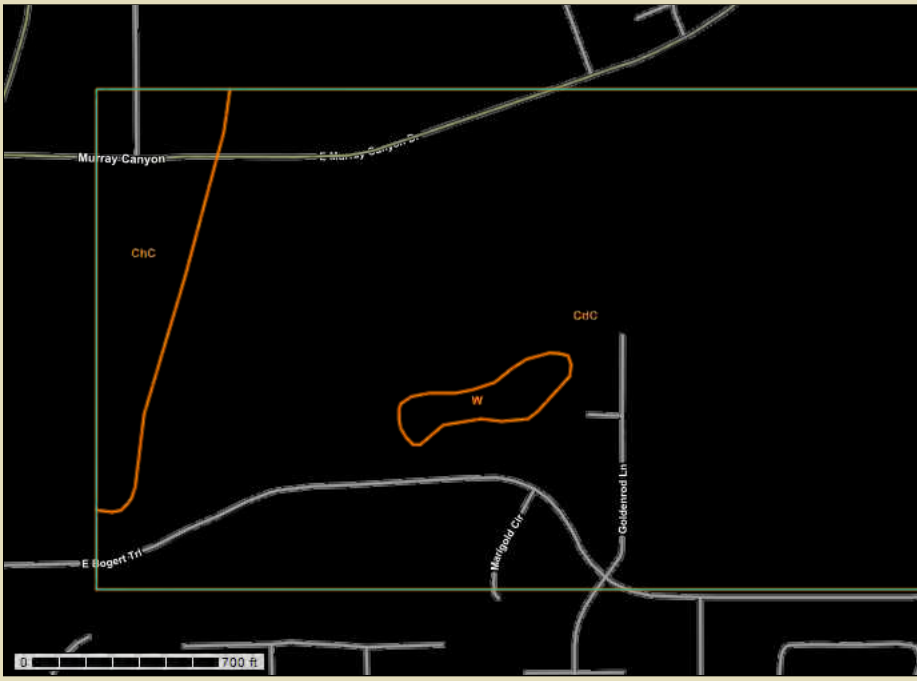
- Map Unit Description (CA)
- Sagebrush Ecosystem Resilience and Resistance Soils Report
- Selected Soil Interpretation Description and Criteria Summary
- Selected Soil Interpretations
- Survey Area Data Summary
- Survey Area Map Unit Symbols and Names
- Water Quality Index (WQIag) Soil Factors

- Disaster Recovery Planning
- Land Classifications
- Land Management
- Soil Chemical Properties
- Soil Erosion
- Soil Health
- Soil Physical Properties
- Soil Qualities and Features
- Vegetative Productivity
- Waste Management
- Water Features
- Water Management
- Wildlife Management

Legend

Soil Map

Scale (not to scale)



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Map done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The c units and the level of detail shown in the resulting soil map are dependent on that map scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of map of soil line placement. The maps do not show the small areas of contrasting soils that could have be more detailed scale.

Report — Map Unit Description (Brief, Generated)

Minor map unit components are excluded from this report.

Riverside County, Coachella Valley Area, California

Map Unit: CdC—Carsitas gravelly sand, 0 to 9 percent slopes

Component: Carsitas (85%)

The Carsitas component makes up 85 percent of the map unit. Slopes are 0 to 9 percent. This component is on alluvial fans. The parent material consists of gravelly alluvium derived from granite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. Irrigated land capability classification is 4s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Riverwash (4%)

Generated brief soil descriptions are created for major soil components. The Riverwash soil is a minor component.

Component: Carsitas (4%)

Generated brief soil descriptions are created for major soil components. The Carsitas soil is a minor component.

Component: Myoma (4%)

Generated brief soil descriptions are created for major soil components. The Myoma soil is a minor component.

Component: Unnamed, stony or gravelly (3%)

Generated brief soil descriptions are created for major soil components. The Unnamed, stony or gravelly soil is a minor component.

Map Unit: ChC—Carsitas cobbly sand, 2 to 9 percent slopes

Component: Carsitas (85%)

The Carsitas component makes up 85 percent of the map unit. Slopes are 2 to 9 percent. This component is on alluvial fans. The parent material consists of gravelly alluvium derived from granite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. Irrigated land capability classification is 6s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Riverwash (4%)

Generated brief soil descriptions are created for major soil components. The Riverwash soil is a minor component.

Component: Carrizo (4%)

Generated brief soil descriptions are created for major soil components. The Carrizo soil is a minor component.

Component: Chuckawalla (4%)

Generated brief soil descriptions are created for major soil components. The Chuckawalla soil is a minor component.

Component: Unnamed (3%)

Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

Map Unit: W—Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Description — Map Unit Description (Brief, Generated)

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

APPENDIX B:
NATURAL RESOURCES REVIEW

GENERAL BIOLOGICAL EVALUATION

AT&T SITE CSL06223
AGUA CALIENTE BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR.
PALM SPRINGS, RIVERSIDE COUNTY, CA 92264
FA #13025562

PREPARED FOR:
AT&T
5001 EXECUTIVE PARKWAY
SAN RAMON, CALIFORNIA 94583

DATED: NOVEMBER 6, 2020

PREPARED BY:
ACE ENVIRONMENTAL, LLC
9976 PEAK LOOKOUT STREET
LAS VEGAS, NEVADA 89178
WWW.ACEENVIRONMENTALLLC.COM
ACE PROJECT NO. 20-155-132-508

November 5, 2020

Kerry Willoughby
Ace Environmental, LLC
9976 Peak Lookout Street
Las Vegas, NV 89178

Subject: General Biological Evaluation for the New "Agua Caliente Band of Cahuilla Indians" Telecommunication Facility (Site No. CSL06223) near Palm Springs, California (APN 512-140-001).

Dear Ms. Willoughby,

As requested, a general biological resources evaluation was conducted by Kidd Biological, Inc. on a proposed cellular communications project in Palm Springs, California. The purpose of this report is to determine if the construction of a new cellular communications facility will result in significant impacts to biologically sensitive resources.

Project Description

AT&T proposes to construct a new cellular communications facility in order to improve service in the area. The proposed project will include the construction of a 54-foot tall mono-palm tower with associated antennas and equipment mounted on it. A new 16-foot by 25-foot outdoor equipment shelter will be installed within the equipment lease area where the associated generator and cabinets will be enclosed within a stick-built equipment shelter. A power and telco underground trench will be dug to connect the new site to power and fiber. The route will be approximately 100-feet to the power source, then an additional 800-feet to an existing Telco pedestal to the east past Goldenrod Lane, within the golf course.

Project Location

Generally, the site is located south of Palm Springs in the Coachella Valley in Riverside County, 6.5 miles southwest of Interstate 10, and 2.5 miles southwest of Highway 111. More specifically, the site is located inside of the Indian Canyons Golf Resort northwest of Goldenrod Lane with a site address of 1097 East Murray Canyon Drive (See Figure 1). The Palm Springs Airport is 3.5 miles to the northeast.

Ecologically, the site is located between the San Jacinto Mountains to the west and Santa Rosa Mountains to the east within the Coachella Valley. It is located in the Upper Coachella Valley and Hills of the Sonoran Basin and Range Ecoregion, at an elevation of 518 feet above mean sea level. The project location can also be described as being located in Section 35 of Township 4 South, Range 4 East of the Palm Springs, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (see Figure 2).

FIGURE 1. AERIAL PHOTO OF SITE

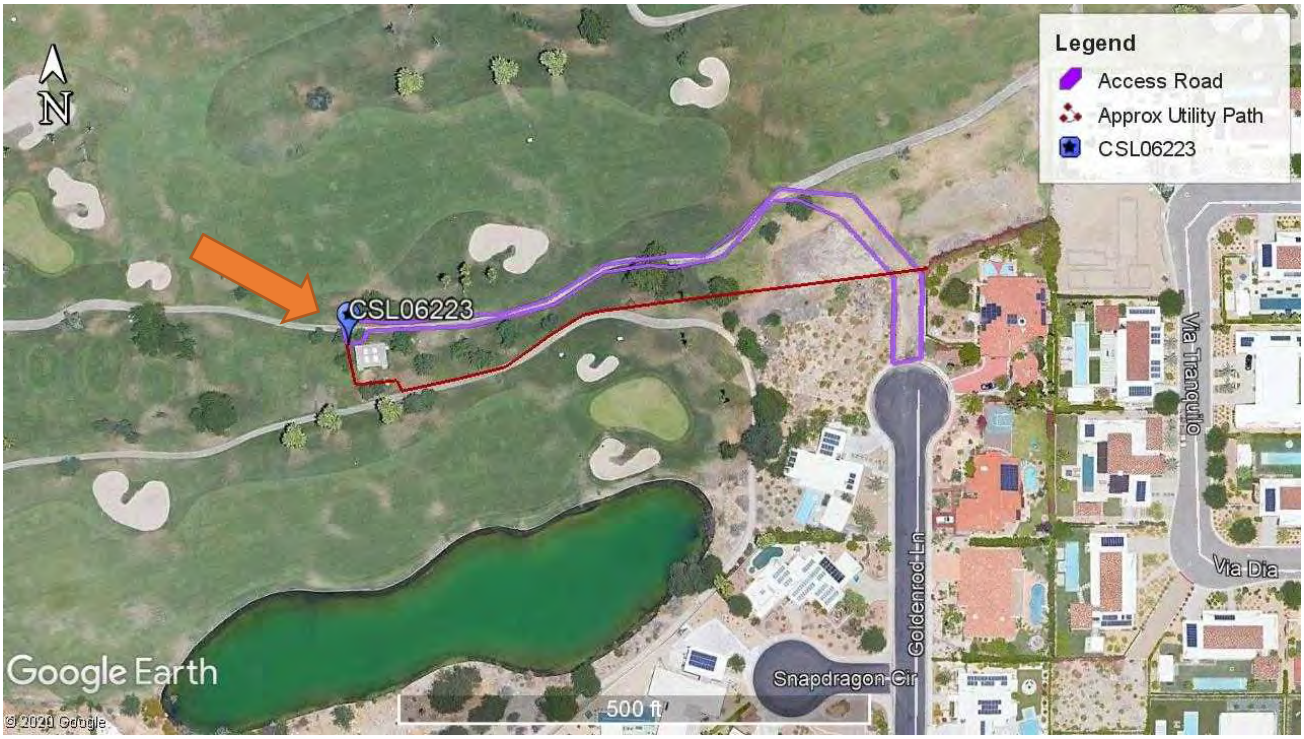


FIGURE 2. TOPOGRAPHIC MAP OF SITE LOCATION

Methods

This assessment focused on reviewing documented sensitive biological resources onsite and to use the information found in the literature review to determine the potential for these species to occur onsite. Prior to visiting the site, a literature review was done using the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database[1] and California Native Plant Society's Inventory of Rare and Endangered Plants[2] . A report was prepared for sensitive species recorded within three miles of the project site. This information was used to help determine if any sensitive resources were previously reported on, or adjacent, to the subject property based on the existing conditions. Information from other resources such as the U.S. Fish and Wildlife service, telecommunication site plans, aerial photography and photographs provided by Ace Environmental, LLC were also reviewed.

Prior the literature review, a site visit was conducted by Kidd Biological, Inc. on August 14, 2020. During the assessment site conditions were documented using photos (Attachment 1) and noting all species detected during the site visit. Special attention was paid to the potential for sensitive species to occur on site and any potential drainage features on the site. Species detected during the site visit were limited to the time of day and the time of year the survey was conducted (e.g. nocturnal species would not have been detected during the daytime survey).

Sensitive Resources

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. The CDFW, U.S. Fish and Wildlife Service (USFWS), and groups like the California Native Plant Society (CNPS) maintain special watch lists of such resources. After reviewing aerial photos, maps and various documents, it was determined from several criteria, which sensitive resources have a low, moderate or high potential to occur on site. Criteria used to determine potentials of occupancy include, but are not limited to, soil types and conditions, habitat types and quality, disturbance, site history, adjacent land uses and proximity to nearest known extant populations of each respective species.

The CNDDB and other sources identified 40 sensitive species as having been previously reported within 3 miles of the project site. After visiting the site, reviewing aerial photos, maps and various documents, it was determined from several criteria, which sensitive resources have a low, moderate or high potential to occur on site. Criteria used to determine potentials of occupancy include, but are not limited to, soil types and conditions, habitat types and quality, disturbance, site history, adjacent land uses and proximity to nearest known extant populations of each respective species. A discussion of the potential for these sensitive species to occur onsite is included below in Table 1 as well as in the discussion below.

[1] California Natural Diversity Database (CNDDB). 2019. [Internet]. CDFW Version 5.2.14. Accessed August 25, 2020
[2] California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 25 August 2020].

TABLE 1 – Sensitive Species Occurring in the Area

Species		Status			Potential for Impact from Project
Scientific Name	**Common Name**	**FWS**	**CDFW**	**CNPS**	
PLANTS					
Abronia villosa var. aurita	chaparral sand-verbena	-	-	1B.1	No effect due to lack of suitable habitat.
Acmispon haydonii	pygmy lotus	-	-	1B.3	No effect due to lack of suitable habitat.
Almutaster pauciflorus	alkali marsh aster	-	-	2B.2	No effect due to lack of suitable habitat.
Ambrosia monogyra	singlewhorl burrobrush	-	-	2B.2	No effect due to lack of suitable habitat.
Astragalus hornii var. hornii	Horn's milk-vetch	-	-	1B.1	No effect due to lack of suitable habitat.
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	FE	-	1B.2	No effect due to lack of suitable habitat.
Atriplex parishii	Parish's brittlescale	-	-	1B.1	No effect due to lack of suitable habitat.
Ayenia compacta	California ayenia	-	-	2B.3	No effect due to lack of suitable habitat.
Caulanthus simulans	Payson's jewelflower	-	-	4.2	No effect due to lack of suitable habitat.
Chorizanthe parryi var. parryi	Parry's spineflower	-	-	1B.1	No effect due to lack of suitable habitat.
Euphorbia arizonica	Arizona spurge	-	-	2B.3	No effect due to lack of suitable habitat.
Imperata brevifolia	California satintail	-	-	2B.1	No effect due to lack of suitable habitat.
Linanthus maculatus ssp. maculatus	Little San Bernardino Mtns. linanthus	-	-	1B.2	No effect due to lack of suitable habitat.
Nemacaulis denudata var. gracilis	slender cottonheads	-	-	2B.2	No effect due to lack of suitable habitat.
Saltugilia latimeri	Latimer's woodland-gilia	-	-	1B.2	No effect due to lack of suitable habitat.

Selaginella eremophila	desert spike-moss	-	-	2B.2	No effect due to lack of suitable habitat.
Stemodia durantifolia	purple stemodia	-	-	2B.1	No effect due to lack of suitable habitat.
Thelypteris puberula var. sonorensis	Sonoran maiden fern	-	-	2B.2	No effect due to lack of suitable habitat.
Xylorhiza cognata	Mecca-aster	-	-	1B.2	No effect due to lack of suitable habitat.
WILDLIFE					
Bombus crotchii	Crotch bumble bee	-	Cand	-	No effect due to lack of suitable habitat.
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	-	SC	-	No effect due to lack of suitable habitat.
Crotalus ruber	red-diamond rattlesnake	-	SC	-	No effect due to lack of suitable habitat.
Cypseloides niger	black swift	-	SC	-	No effect due to lack of suitable habitat.
Dinacoma caseyi	Casey's June beetle	FE	-	-	No effect due to lack of suitable habitat.
Falco mexicanus	prairie falcon	BCC	WL	-	No effect due to lack of suitable habitat.
Lasiurus xanthinus	western yellow bat	-	SC	-	No effect due to lack of suitable habitat.
Nyctinomops femorosaccus	pocketed free-tailed bat	-	SC	-	No effect due to lack of suitable habitat.
Nyctinomops macrotis	big free-tailed bat	-	SC	-	No effect due to lack of suitable habitat.
Ovis canadensis nelsoni pop. 2	Peninsular bighorn sheep DPS	FE	ST	-	No effect due to lack of suitable habitat.
Phrynosoma mcallii	flat-tailed horned lizard	-	SC	-	No effect due to lack of suitable habitat.
Polioptila californica californica	coastal California gnatcatcher	FT	SC	-	No effect due to lack of suitable habitat.
Rana draytonii	California red-legged frog	FT	SC	-	No effect due to lack of suitable habitat.
Rana muscosa	southern mountain yellow-legged frog	FE	SE	-	No effect due to lack of suitable habitat.
Toxostoma crissale	Crissal thrasher	-	SC	-	No effect due to lack of suitable habitat.
Toxostoma lecontei	Le Conte's thrasher	BCC	SC	-	No effect due to lack of suitable habitat.

Uma inornata	Coachella Valley fringe-toed lizard	FT	SE	-	No effect due to lack of suitable habitat.
Vireo bellii pusillus	least Bell's vireo	FE	SE	-	No effect due to lack of suitable habitat.
Xerospermophilus tereticaudus chlorus	Palm Springs round-tailed ground squirrel	-	SC	-	No effect due to lack of suitable habitat.

U.S. Fish and Wildlife Service (FWS) FE- Federally Endangered FT- Federally Threatened BCC- Birds of Conservation Concern	**California Department of Fish & Wildlife (CDFW)** SE- State Endangered ST- State Threatened WL- Watch List SC- State Species of Special Concern Cand.- Candidate for listing

California Native Plant Society (CNPS)

1B Plants rare, threatened, or endangered in California and elsewhere
2B Plants rare, threatened, or endangered in California but more common elsewhere
4 Plants of which more information is needed. A watch list.
- .1 Seriously threatened in California
- .2 Moderately threatened in California
- .3 Not very threatened in California

Results

The project site is located within a golf course in the City of Palm Springs. Surrounding land uses include residential developments to the north and south, the golf course to the east and west, with vacant parcels of desert scrub scattered to the east and west. The Palm Canyon Wash is located 0.5 miles to the east. The proposed footprint is located in the western end of the Indian Canyons Golf Resort. The site is completely developed with only golf course turf grass and desert landscaping within the area. Most of the plants consist of ornamental trees and shrubs. There are areas of open space to the northwest, southwest, and northeast of the site, however the project lease area as well as the utility route are separated from the desert habitat by the golf course. There is a small area (~1/3 acre) of remnant desert scrub near the access point from Goldenrod Lane. This area contains one large smoke tree *(Psorothamnus spinosus)*, brittlebush (*Encelia farinosa*), and bursage (*Ambrosia dumosa*). Ornamental shrubs were also present along the utility corridor near the residential development. Most of these are palo verde (*Parkinsonia florida*), mesquite (Prosopis sp.) and fan palms (*Washingtonia mexicana*).

Impact Analysis

Of the list of 40 sensitive species having been reported in the area, none are expected to occur within the project footprint as the site is almost entirely developed, with the remaining areas previously disturbed and landscaped. There is little potential for any sensitive species to occur on the site and therefore no direct impacts to listed species is anticipated from this project.

The nearby desert habitat may have sensitive species and flying species such as bats and birds may forage over the golf course. There is some remnant desert habitat within the utility corridor. This area is heavily disturbed

and although it is comprised of typical desert species it is likely too small and too disturbed to support sensitive species.

Wildlife detected in the area included Canada goose (*Branta canadensis*), black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), verdin (*Auriparus flaviceps*), northern mockingbird (*Mimus polyglottos*), vermillion flycatcher (*Pyrocephalus rubinus*), Costa's hummingbird (*Calypte costae*), black-chinned hummingbird (*Archilochus alexandri*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), and a deceased barn owl (*Tyto alba*).

Temporary indirect impacts include impacts that are incurred during construction such as noise, dust, night-lighting and pollutants. After construction is complete, on-going indirect impacts include night-lighting from permanent fixtures, radio microwaves from the tower and on-going maintenance noise. Plants are generally not significantly impacted by indirect impacts. Wildlife may be negatively impacted in their behavior by noise and artificial lighting. Of note, nesting birds may abandon nests to escape from noise or lighting. Adjacent ornamental landscaping as well as the adjoining desert habitat may support nesting birds that are protected by CDFW codes and the Migratory Bird Treaty Act (MBTA).

Other considerations

There are no drainage features within the project footprint. There is a man-made pond associated with the golf course to the south of the proposed lease area. No riparian habitat is associated with this feature; however, it may attract wildlife to the area.
Ponded water was noted at the entrance to the access road at the terminus of Goldenrod Lane. This ponded water appears to be from irrigation runoff and not associated with a natural water course. As with the pond, this puddled water could attract wildlife to the area where work will be conducted.

The proposed project will not impact or impede any wildlife corridors nor does the site fall within any designated critical habitat.

This site falls within the boundaries of the Coachella Valley Multi-Species Habitat Conservation Plan (CVMSHCP). It should be noted that this report does not include an analysis of the project's compliance with Plan; however, it was noted that the site is not within a Conservation Area.

RECOMMENDATIONS

Bio-1. The adjacent desert/creosote scrub habitat as well as the landscaping within the golf course are likely to be used by nesting birds. Due to the potential for birds to nest in the vicinity of this site, if construction of this site should occur during the bird nesting season[3] a preconstruction clearance survey of the site and the surrounding habitats within 500 feet of the site should be surveyed no more than 7

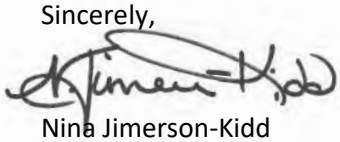
[3] The nesting season is generally considered February 15- August 30, with peak nesting occurring between March 1 and June 30.

days prior to the start of construction. If an active nest is found within the project's zone of influence avoidance measures will be recommended. Delay of the project may be recommended if impacts from construction could cause a nest failure. If during future maintenance, the crew encounters a nest on or immediately adjacent to the project site, work should stop immediately until a biologist can determine the status of the nest and when work can proceed without risking violation to state or federal laws.

Bio-2. The site falls within the boundaries of the Coachella Valley MSHCP. This report does not meet the County's standards for analysis for the project's compliance with this plan. Due to the small size and nature of the project and the previous development on the site, the County will likely not require an additional analysis.

Should you have any questions regarding this report, please do not hesitate to contact me at (949) 632-2756.

Sincerely,



Nina Jimerson-Kidd
Wildlife biologist

ATTACHMENT 1: SITE PHOTOS

Photo 1. Site Access from Goldenrod Lane

Photo 2. Proposed Lease Area

Photo 3. Utility Route just north of Golden Road Lane

Photo 4. Telco Path though golf course

Photo 5. Looking south at entry point from Goldenrod Lane

Photo 6. Small area of remnant desert scrub, west of access road.

ATTACHMENT 2: BIOLOGIST'S QUALIFICATIONS

Nina Jimerson-Kidd

Wildlife Biologist

Mrs. Jimerson-Kidd has over 15 years' experience in conducting herpetological, entomological, avian and botanical surveys. Her experience includes inventorying both plants and wildlife of southern and central and northwest California. She has experience in raptor trapping, handling, survey techniques, and nest monitoring, as well as some experience with mammal trapping. She also has extensive experience with small mammal identification. Mrs. Jimerson-Kidd has conducted numerous focused surveys or habitat assessments for California gnatcatcher, desert tortoise, least bell's vireo, flat-tailed horned lizard, burrowing owls, western spadefoot toad, Delhi-sands flower-loving fly, Arroyo toad, and Quino checkerspot butterfly. Additionally, her experience includes habitat assessments and focused for sensitive plants species, particularly desert species.

Education

BS, Natural Resources Planning & interpretation/ Ecology, Humboldt State University- 1998

Permits

- Federal Bird Marking sub-permit: 22951-C
- Flat-tailed Horned Lizard handling MOU (BLM)
- Scientific Collection Permit: 801128-03
- Federal 10A(1)a permit #036550-4
  Coastal California Gnatcatcher
  Quino Checkerspot Butterfly

Professional affiliations

- Wildlife Society
- Association of Field Ornithologists
- Raptor Research Foundation
- Society for the Study of Amphibians and Reptiles
- California Native Plant Society

Continued Education

Desert Tortoise Council Workshop 10/01
Tortoise Egg Handling and Burrow Construction Certificate 10/01
South Western Willow Flycatcher Workshop 5/01
So. Coast Missing Linkages Project Symposium 8/02
Bats of the Southwestern Desert 5/02
Burrowing Owl Symposium 10/03
California Tiger Salamander Workshop 4/13
California Manual of Vegetation CNPS workshop 1/15
Rapid Assessment/Releve Training (CNPS) 6/15

Job History

Kidd Biological, Inc. 2000- Present. Principle Biologist. Conduct Biological; assessments, focused surveys for sensitive species, project management, mitigation monitoring, restoration monitoring. On-going research of bird of prey in California.

Michael Brandman Associates. 2002- 2005. Project manager/Ecologist. Project Management, biological assessments, focused surveys, mitigation monitoring. Supervised 3-5 employees as well as sub-contractors. Assisted with Community outreach and education programs.

Humboldt State Museum of Vertebrate Zoology. 1996-1998**.** Assistant Curator. Managed and maintained museum specimens and catalogs, prepared new specimens, assisted researchers in locating relevant specimens from within the museum as well as locating and obtaining loans from other museums world-wide.

Humboldt County museum of Natural History. 1996-1998. Museum Assistant. Designed and created displays, managed collection, assisted with newsletter, created and taught children's classes and summer day camp, manned museum gift shop, organized and trained volunteers.

Select Professional Experience

Focused Surveys, California Gnatcatcher. Assisted in conducting a focused survey for the California gnatcatcher. The survey was conducted to determine the presence and location of any individuals or pairs of gnatcatchers within a 1000-acre parcel located in San Mateo County Park, Orange County, CA. Twenty-nine pairs of gnatcatchers were identified during the 2001 surveys. Participated in 2010 census surveys on Marine Corp Base Camp Pendleton.

Prepared an RMP for County of San Bernardino. Resource Management Plan was prepared for 13,000 acres in the Mojave Desert. During the surveys of the lands, numerous desert tortoise and burrowing owls as well as other sensitive species were observed. The plan focused on the minimizing efforts of a low-density housing project on sensitive species in the Mojave Desert. (2003)

Burrowing Owl Relocation. Coordinated with CDFG and USFWS to actively translocate one pair of burrowing owls from a project site in the City of Fontana to a conservation site on U.S. Naval Station, Seal Beach. Assisted in the trapping and release efforts as well as monitoring of the site during grading.

Assist in on-going Burrowing Owl research. Assists annually in capturing and banding of juvenile burrowing owls on a conservation site on U.S. Naval Station Seal Beach. Data is used to calculate nest success rates, particularly of translocated birds.

Managed biological studies for proposed wind turbine project. Managed 10 biologists and conducted migratory bird surveys, plant surveys and desert tortoise surveys for a 7 square mile proposed wind farm in the Mojave Desert. 2004-2005

Construction monitoring. Has monitored grading and other construction activity on numerous projects including cellular communications towers, military training facilities, County road maintenance, linear fiber-optics lines, park trails, large housing developments, and restoration activities. Species monitored include California gnatcatcher, least Bell's vireo, arroyo toad, desert tortoise, burrowing owl, nesting birds, flat-tailed horned lizard, and general wildlife.

Focused Surveys, Arroyo Toad. Conducted presence/absence surveys as well as pit-fall trapping in Camp Pendleton USMCB and San Mateo County Park in San Diego County, CA. Over 1000 Arroyo Toads were detected as well as egg strands, tadpoles and metamorphs during the 2001 surveys. Since then numerous surveys have been conducted for the toad in San Diego and Orange Counties.

Consultation with CDFG. Successfully completed 2081 permit applications for take of desert tortoise on a project in the Mojave Desert as well as a take permit for Mohave ground Squirrel in Victorville. 2003-2005.

Quino Checkerspot butterfly Surveys. Over the past decade, approximately 12 sites have been surveyed for the endangered butterfly. Survey areas included Northwestern Riverside County to southeastern San Diego County. Two power line projects were part of these surveys and required extensive area surveys. Additional surveys have been conducted for the BLM and the U.S. Forest Service for fire maintenance. In 2010, QCB were observed near Mount Palomar.

APPENDIX C:
HISTORIC, ARCHAEOLOGICAL & CULTURAL REVIEW DOCUMENTATION

CULTURAL RESOURCE RESEARCH AND FIELD SURVEY

AT&T SITE CSL06223
AGUA CALIENTE BAND OF CAHUILLA INDIANS
1097 EAST MURRAY CANYON DR.
PALM SPRINGS, RIVERSIDE COUNTY, CA 92264
FA #13025562

PREPARED FOR:
AT&T
5001 EXECUTIVE PARKWAY
SAN RAMON, CALIFORNIA 94583

DATED: JANUARY 9, 2021

PREPARED BY:
ACE ENVIRONMENTAL, LLC
9976 PEAK LOOKOUT STREET
LAS VEGAS, NEVADA 89178
WWW.ACEENVIRONMENTALLLC.COM
ACE PROJECT NO. 20-155-132-508

TABLE OF CONTENTS

		page
I.	INTRODUCTION/UNDERTAKING INFORMATION/SUMMARY	1
II.	SETTING	6
III.	METHODS	11
IV.	RESULTS	12
V.	MANAGEMENT CONSIDERATIONS	15
VI.	REFERENCES CITED	17

TABLE

1:	Cultural resource management reports within one-half mile of the project site	13
2:	Archaeological/Historical resources within one-half mile of the project site	14

FIGURES

1:	Project location: California (south half) U.S.G.S. state map	3
2:	Project location: Palm Springs U.S.G.S. 7.5-minute map	4
3:	Aerial Photograph of the Project APE (Google Earth)	5

ATTACHMENTS

1: Eastern Information Center (EIC) Record Search Confirmation

2: Photographs

I. INTRODUCTION/UNDERTAKING INFORMATION/SUMMARY

The following report documents the methods and results of archaeological/historical research and field survey for the East Murray Canyon Drive Palm Springs Cell (CSL06223) Project (Figures 1, 2, and 3). The proposed Project is as follows:

PROJECT DESCRIPTION

STICK BUILT SHELTER / OUTDOOR EQUIPMENT

'AT&T' PROPOSED TO CONSTRUCT, OPERATE AND MAINTAIN AN UNMANNED WIRELESS COMMUNICATIONS FACILITY. THIS FACILITY WILL CONSIST OF THE FOLLOWING:

- INSTALL 12 (P) 8' PANEL ANTENNAS (4 PER SECTOR).
- INSTALL 36 (P) LTE RRUS AT ANTENNA LEVEL (12 PER SECTOR).
- INSTALL 4 (P) DC-09 SURGE SUPPRESSOR.
- INSTALL 2 (P) EMERSON POWER CABINET.
- INSTALL 4 (P) PURCELL CABINET.
- INSTALL 1 (P) GPS ANTENNA.
- INSTALL 2 (P) 2'ø MW ANTENNAS.
- INSTALL (P) UTILITY CABINETS.
- INSTALL 3 (P) DC-12 OUTDOOR.
- INSTALL 1 (P) 30KW GENERAC DIESEL GENERATOR.
- INSTALL (P) STICK BUILT SHELTER TO MATCH BUILDING NEAR TRANSFORMER.
- INSTALL (P) MONOPALM.
- INSTALL (P) METER PEDESTAL.
- INSTALL 3 (P) LIVE PALM TREES.

The Project Direct-Impact Area of Potential Effect (APE) consists of the footprint of the facilities described above plus an approximately 20-foot buffer area. Overall, the new Project includes the utility connection location approximately 150 north and 150 feet east of a cul-de-sac at the north extent of Goldenrod Lane, utility trenching from the connection approximately 800 feet west to an existing pump house, construction of the AT&T shelter containing communication facilities just west of the pump house, and construction of an approximately 54-foot tall monopalm cell tower between and just north of the existing pump house and the proposed shelter. An area of one-half mile radius was assumed for the Project Indirect-Impact (i.e. visual impact) APE.

The proposed Project is on Agua Caliente Indian Reservation allotted land (Allotments 90EA and 105E under long-term master lease ACDA Lease PSL-47). In accordance with Bureau of Indian Affairs Pacific Regional Office Archaeological Survey Requirements dated June 21, 2006, arrangements for the survey were made with the Bureau of Indian Affairs (Dan Hall, Regional Archaeologist -Pacific Region and Ollie Beyal at the Palm Springs Agency) and with the Agua Caliente Band of Cahuilla Indians (Anthony Ramirez, ACBCI Economic Development Project Manager and Patricia Garcia, Director ACBCI Tribal Historic Preservation Office). Consent to proceed with the cultural resources survey was received via email from Ollie Beyal (9/11/20), Anthony Ramirez (9/30/20), Patricia Garcia (10/1/20), and Dan Hall (10/2/20) whose email also communicated the BIA's determination that no ARPA permit was necessary for the proposed cell site survey on trust lands located within the Indian Canyons Golf Resort. All parties requested a copy of the resulting cultural resources report for review and comment prior to finalization.

In summary, archaeological field survey was completed for the East Murray Canyon Drive Cell (CSL06223) Project Direct-Impact APE and archival research was conducted for both the Project Direct-Impact APE and the Indirect-Impact APE. No archaeological or historical resources were identified in the Project Direct-Impact APE.

The Andreas Canyon Archaeological District is listed on the National Register of Historic Places within the Indirect-Impact APE (P-33-000516 being a part of P-33-11073/Andreas Canyon National Register District). No additional resources are identified as eligible for the National Register on the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD) within the Indirect-Impact APE. Observation in the direction of the proposed Project, from an elevated area on Palm Canyon Drive within the northern portion of the Andreas Canyon Archaeological District, revealed that the proposed Project improvements will not be visible from this location or in all likelihood from other northern portions of the District closest to the proposed Project. Given that the current research and survey identified no archaeological resources within the Direct-Impact APE and no effects on historical resources listed on the National Register of Historic Places or listed as eligible on the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD) within the Indirect-Impact APE, a finding of "No Historic Properties" for the Direct-Impact APE and "No Effect on Historic Properties" for the Indirect-Impact APE is recommended. Additionally, the Agua Caliente Tribal Historic Preservation Office (THPO) has consulted the Agua Caliente Archive and has determined no historic properties are located in this project area, however, due to its proximity to the Andreas Canyon National Register District and the adjacent canyons, the THPO has requested the presence of ACBCI cultural monitors.

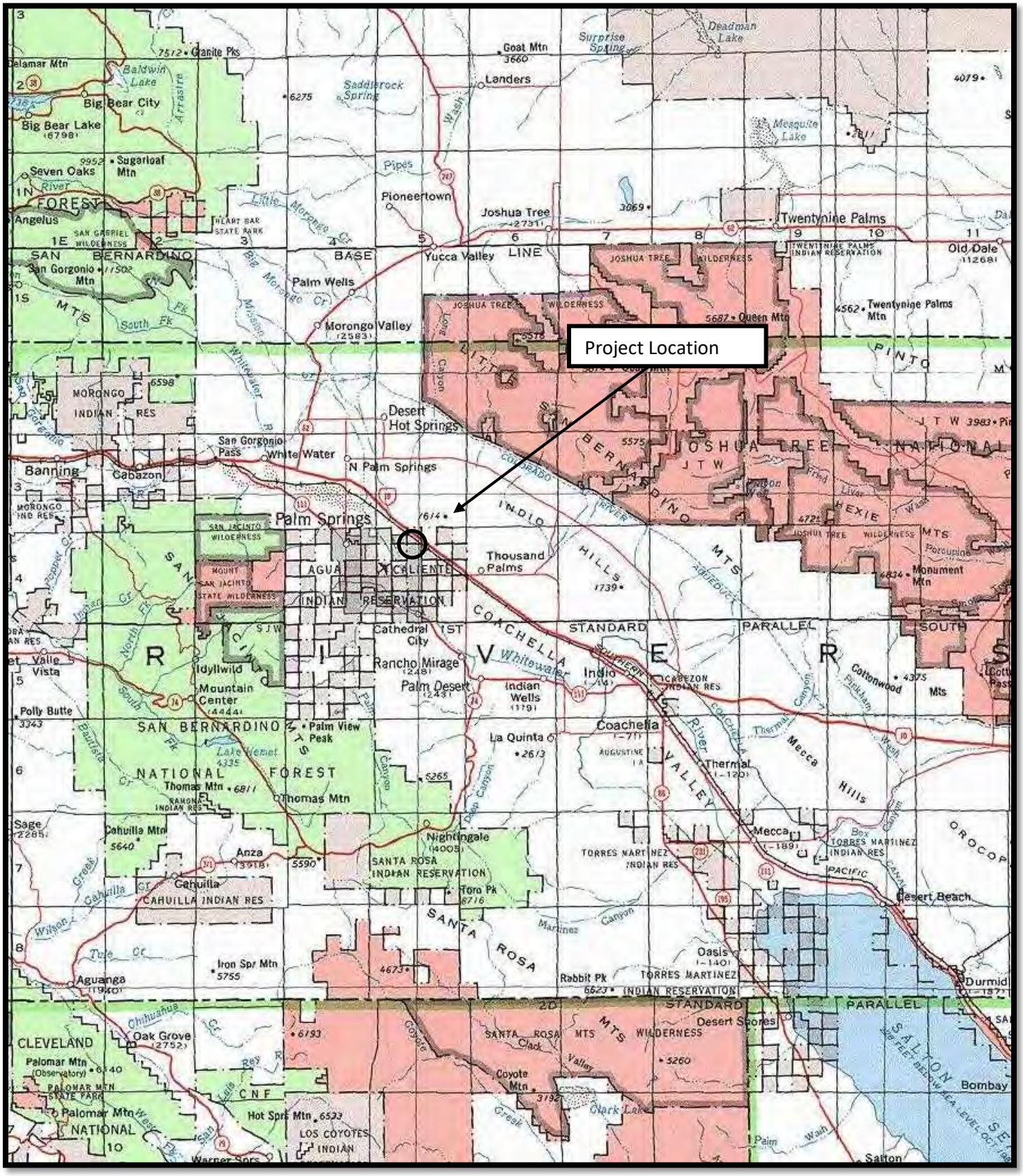


FIGURE 1: PROJECT LOCATION
SOUTHERN CALIFORNIA U.S.G.S. MAP

0 miles 8.5

N

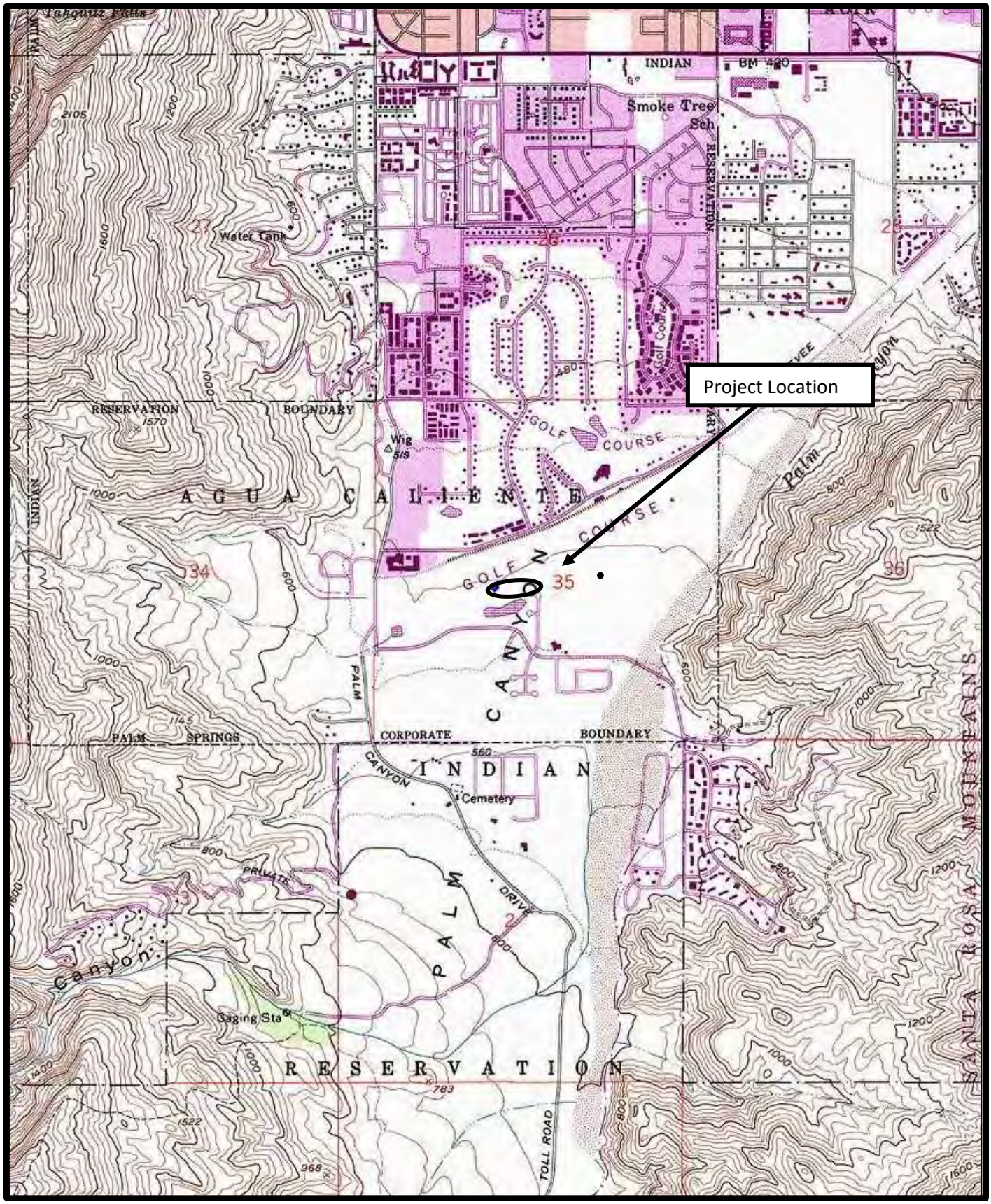


FIGURE 2: PROJECT LOCATION:
PALM SPRINGS
U.S.G.S. 7.5-MINUTE MAP

0 feet 2000

N

Figure 3: Aerial Photograph of the project APE (Google Earth)

II. SETTING

The following discussion of the project setting and existing conditions provides context for the cultural resource information that follows.

A. Natural Setting

The Project site is located at the western edge of the Coachella Valley in Palm Canyon near the mouth of Andreas Canyon between the San Jacinto Mountains to the west and the Santa Rosa Mountains to the east. The Direct-Impacts APE is located in the south-central portion of the Indian Canyons Golf Course between Goldenrod Lane and South Palm Canyon Drive. There appears to be no native topography or native vegetation within the Direct-Impact APE.

B. Cultural Setting

The following information regarding the cultural setting provides context for the archaeological studies completed for the project and a framework within which to evaluate potential cultural materials for significance. The background information was gathered from sources detailed in the Methods section of this report.

1. Archaeological and Ethnographic Background

Archaeological research in Southern California has undergone several changes in focus, reflecting contemporary research assumptions, since its beginnings in the early 1900s. Although a few surveys, part of the University of California at Berkeley salvage ethnography program, were conducted around the turn of the 20th century, systematic archaeological research in Riverside, Imperial, and San Diego counties began in the 1920s with the efforts of Malcolm Rogers, curator of the San Diego Museum of Man and later with the academic research programs in the 1950s and 1960s undertaken by William Wallace (University of Southern California), Claude Warren, and D.L. True (University of California, Los Angeles). The following review of the archeological research conducted in the project region traces the evolution of archaeological thought initiated by these researchers and presents the understandings about the prehistoric past formed primarily out of the culture history and ecological/processual archaeological theoretical approaches that were employed.

The Indians of Alta and Baja California had been wanderers and settlers, foragers and collectors, gatherers and traders, adapting to environmental and cultural changes throughout prehistory. The Native inhabitants of Baja and Alta California know that their people have inhabited this region since time immemorial. The archaeological evidence affirms that since the Pleistocene, Alta and Baja California Native cultures have adapted to constantly changing environments—gradual large-scale climatic changes as well as rapid local fluctuations. Many of these environmental changes affected cultures throughout the Southwest, inducing regional population migrations, moving peoples, goods, and ideas throughout the region. Thus, Native California cultures have also had to respond to constant cultural migrations and intrusions. By the time of European contact, the Native peoples of the Californias had at least ten thousand years of experience in adapting to environmental and cultural changes. It was this experience that they relied upon in adapting to the unprecedented and pervasive environmental and cultural changes that arrived with the Europeans.

Because of the incompleteness of the archaeological record, there is considerable debate about the specifics of regional prehistory. However, major trends are generally agreed upon (Christenson 1990; Warren et al. 1998;

McDonald 1993; Moratto 1984). It is accepted by archaeologists that the earliest humans traveled to the New World at the end of the Pleistocene, about ten thousand years ago (Moratto 1984). These earliest peoples were first identified and labeled the San Dieguito complex by Malcolm Rogers, early archaeological curator at the San Diego Museum of Man, and by Claude Warren of University of California Los Angeles. Between 1929 and 1945, Rogers conducted extensive archaeological fieldwork in Alta and Baja California and published summaries about the region's prehistory. He equated remains of the earliest hunting peoples in the Colorado and Mojave deserts (Rogers 1929, 1939) with archaeological remains he found on the coast (Rogers 1945). Rogers concluded that the San Dieguito peoples were highly mobile, relying primarily on hunting for subsistence. Their tools included primarily flaked stone tools including scrapers, hammerstones, and large spear and atlatl projectile points. Evidence of occupation during the San Dieguito period in central Riverside County has been identified at CA-RIV-5786 in Diamond Valley (Applied Earthworks 2001:523), at CA-RIV-2798H on the shoreline of Elsinore Lake (Grenda 1997) and at CA-RIV-6069 in the San Jacinto Valley near Mystic Lake (Horne and McDougal 2008). While Rogers recorded many sites in the Colorado Desert, which based on his surface survey observations he proposed dated to this period, few have been archaeologically investigated.

Other early archaeological site types that predominate along the Alta and Baja California coasts are dense shell middens containing few finely-flaked hunting artifacts and abundant milling tools. Rogers labeled the prehistoric occupants of these sites the La Jolla Complex. From the earliest period of his work, he proposed that the differences between the San Dieguito and La Jolla peoples were related to environmental variations. He emphasized that the area presented an excellent opportunity for studying the effects of changing environments on prehistoric economies and material culture (Rogers 1929). By 1945, Rogers proposed that many changing adaptations reflected in the material culture remains reflected new peoples with new subsistence strategies and tool kits moving into the region (Rogers 1945).

By the 1950s, archaeological research explicitly focused on the relationship between environmental change and culture adaptations, now with the ability to radiocarbon date materials such as charcoal and shell (Warren 1968). University of California Los Angeles archaeologists excavated an important La Jolla shell midden site at Batiquitos Lagoon (Crabtree et al. 1963). Radiocarbon dating indicated that the site occupation ranged between 7,300 and 3,900 years B.P., well within the time range Rogers had defined for the La Jolla Complex and Wallace had suggested for the Early Milling Stone Culture. A special study of the shellfish remains led the researchers to propose that differences in archaeological materials through time reflected cultural adaptations to long-term environmental change (Warren and Pavesic 1963). Also in the 1950s, D.L. True defined an inland counterpart of these early patterns in the northern reaches of San Diego County, specifically in the Pauma Valley area of the San Luis Rey River drainage, labeling it the Pauma complex.

Approximately one thousand to fifteen hundred years ago, the prehistoric occupants of Alta and Baja California were faced with a new set of environmental and cultural changes. For millennia, Lake Cahuilla, an in-filling of the Salton Trough from overflows of the Colorado River, had experienced intermittent filling and drying. The archaeological record demonstrates that prehistoric peoples heavily used the lake's plant and animal resources, adapting to the varying prehistoric lake shorelines (Wilke 1978; Waters 1983; Schaefer 1994). Concurrent with adaptation to these regional environmental changes over the past millennium (during what archaeologists call the Late Prehistoric period) major new technologies were adopted. The first of these new technological ideas to arrive

was the knowledge of how to process the acorn into an edible food staple, reflected in the archaeological record by the prevalence of deep bedrock grinding mortars and large habitation complexes situated in oak-filled mountain valleys. Also new was the bow-and-arrow, reflected in the archaeological record by the presence of small projectile points (Christenson 1990). New ideas about religion and ceremony are reflected by the replacement of internment burial patterns of the Archaic by cremation and burial of the ashes, often in pottery vessels (Rogers 1945; Wallace 1955). Finally, knowledge of the technology of pottery making moved into the Californias from the Southwest. Although the acorn-processing and bow-and-arrow technologies may have come to the mountains and coast earlier, the emergence of pottery production dates as early as about A.D. 800 (Carrico and Taylor 1983; Griset 1996; Wade, 2007). While Rogers had labeled this most recent cultural complex the Diegueño, the name given to the local Indians by the Spanish padres, current archaeological research refers to them as Late Prehistoric peoples. Alta California Indian tribes south of the approximate dividing line of the San Luis Rey River prefer Kumeyaay; the Baja California Spanish spelling is Kumiai. Iipai/Tipai are also names that reflect a northern/southern cultural division of Kumeyaay people. In the Late Prehistoric period and into historical times, the Luiseño were associated with the San Luis Rey River and Palomar Mountain in northern San Diego County and the Temecula and western San Jacinto Valleys in southwestern Riverside County. The Cupeño and Cahuilla lived in the mountain , valley, and desert regions to the east, including the eastern San Jacinto Valley, the southern San Bernardino Mountains, San Gorgonio Pass, the San Jacinto Mountains, and the Colorado Desert. The Kamia, Quechan, and Cocopa lived near and along the Colorado River, and the Paipai and Kiliwa to the south in Baja California. The proposed Project is within the territory of the Cahuilla (Bean 1978)

The investigations for the Eastside Reservoir Project further refined the chronology for the last 1,500 years into four stages: Saratoga Springs, 1500-750 B.P.; Late Prehistoric, 750-410 B.P.; Protohistoric, 410-180B.P.; and Historic, post-180 B.P. (Applied EarthWorks 2001:529-536). In Riverside County, there are a number of sites that date to this 1,500 B.P. to 200 B.P. time period. Two major research projects, illuminating the Late Prehistoric and Ethno-historic Periods, have been undertaken in the Palm Springs region of the Colorado Desert: "Archaeological, Ethnographic, and Ethnohistoric Investigations at Tahquitz Canyon in Tahquitz Canyon" (Bean and Brakke-Vane 1995) and "National Register of Historic Places Registration Form for the Andreas Canyon Archaeological District" (Schaefer and Hedges 2009). These two studies documented the extensive Cahuilla occupation associated with the permanent water sources in the canyon openings and in the Agua Caliente location (the Cahuilla name being *Sec-he*) that is now in the midst of the city of Palm Springs.

From the above discussion, it is clear that, while the archaeologically- known prehistory of the Southern California region spans at least 10,000 years, the majority of the known evidence for occupation of the inland coastal ranges is attributable to the Late Prehistoric period, with more limited evidence attributable to the San Dieguito and Archaic periods. The settlement pattern of the Late Prehistoric period in the project vicinity appears to be closely tied to the presence of dependable water, either ancient Lake Cahuilla or streams and rivers that flow from the surrounding mountains into the major river drainages. The documented settlement pattern for the late-period sites researched in the project vicinity indicate that occupation consisted of residential bases focused on water sources surrounded by special use sites occupied for hunting or for plant processing.

2. Ethnographic Evidence for the Palm Springs Region

While the archaeological record provides clues to the adaptation strategies and travel and exchange activities of the Late Prehistoric peoples, recreating cultural contexts, especially ritual and ceremonial, with only archaeological evidence is largely speculative. The ethnographic record however, ample for Alta and Baja California, illuminates the cultural contexts for the archaeological record: a pattern of seasonal migrations, travel, and exchange. Gatherings for communal food-collecting and ceremonial events strengthened inter-lineage social and cultural ties and provided settings for exchange of goods and ideas. Cahuilla ceremonies and gatherings documented by the early ethnographers were occasions of gift giving, feasting, and gaming (Bean 1978, Strong 1929).

A comprehensive ethnographic overview was completed, as part of the investigations in Tahquitz Canyon, for the Palm Springs Cahuilla by ethnographer Lowell J. Bean (Bean and Brakke-Vane 1995). This study depicts the fundamental world-view of the Cahuilla and the role of exchange and reciprocity in Cahuilla life. Fundamental to the worldview of the Cahuilla was the understanding that the world was an unstable and unpredictable environment requiring flexible adaptation strategies. Sharing and reciprocity were essential to survival in this ever-changing world. Bean and Vane emphasize that sharing of goods and food was taught to every Cahuilla and reciprocation was a basic expectation of society. All Cahuilla depended on this carefully cultivated network, economically and culturally, to exist. During good times, surpluses of foods were exchanged for manufactured goods; during food shortages, manufactured goods were exchanged for foods. Exchange relationships were integral to the enmity/amity relationships, reflecting warfare/alliance relationships as well as marriage and kin associations.

These reciprocal exchange relationships were implemented primarily through ritual. Bean and Vane detail that, "A great deal of the exchange took place in ritual context, with manufactured tools, beads, and other ornamental objects often given in exchange for food and other subsistence goods. In this way, the labor spent on manufacturing could be 'banked' to buy food when drought, flood, or other disaster wiped out a food supply." Exchange involved foodstuffs (such as agricultural produce, acorns, agave, piñon nuts, and dried meat and fish) as well as tool and decorative raw materials (steatite, obsidian, turquoise, and abalone and olivella shells). Many goods and foods were exchanged during the games, gambling, and marriage and alliance arrangements that took place during ritual assemblages. Ceramic vessels were exchanged both for their own value and as containers of exchange goods. In sum, "Ritual functioned as an instrument of economic adaptation."

The most important ceremonial gathering was the Nukil. The host lineage gathered goods and foods for months ahead, and these were distributed to the guests during the week-long ceremony. Guests brought goods and foods to the ceremony for exchange. Invited guests were those with whom the lineage wanted to establish and strengthen ritual reciprocity. Other opportunities for economic, social, and cultural exchange were eagle rituals, rites of passage, first fruit rites, rain rituals, and food-inducing rituals. Within a year as many as fifty rituals, when foods and manufactured goods were exchanged, were hosted or attended (Bean and Brakke-Vane 1995).

In summary, exchange and travel were critical constituents of the Southern California Indian social and cultural fabric—adaptations for subsistence within a constantly changing environment. The archaeological evidence confirms ten thousand years of adaptation through seasonal migrations and through exchange. During the Late

Prehistoric period, archaeological pottery, stone, and faunal materials document exchange between desert, mountain, and coastal peoples. The ethnographic information further illustrates that this exchange was perceived and implemented within a ritual and ceremonial context. Ceremonies gathered relations from as far east as the Colorado River. These gatherings were frequent and provided for significant exchange of goods and foods, implemented within a framework of gift-giving and reciprocity. The documentation also suggests that during the historical period, culture was adapted to accommodate interactions with the Anglo world.

3. Historical Background

The arrival of the Spanish colonists in San Diego Bay and subsequent expeditions up the California coast marked the beginning of European presence in southern California and the ending of the traditional hunter-gatherer existence of the local Native Americans. Early Spanish explorers and missionaries who travelled through the region included Pedro Fages in 1772, Juan Bautista de Anza in 1775, and Father Francisco Garcés in 1776. Anza, in search of an overland road from Sonora, Mexico, to the mission establishments in central California travelled through the Colorado Desert south of the proposed project, through the San Jacinto Valley, through what is now the City of Riverside, and crossed the Santa Ana River in March, 1774. Settlement during the Spanish period focused on the Presidio defensive post at the opening of the San Diego River into San Diego Bay and on the Missions to the north: San Diego de Alcala several miles inland on the north terrace of the San Diego River valley, San Luis Rey inland on the San Luis Rey River, and San Juan Capistrano and San Gabriel further north. The missions rapidly incorporated huge tracts of surrounding valleys and mesas into cattle and horse pasturage. The inland valleys became a part of this pasturage and were the richest grazing lands of the mission (Rush 1965, Brigandi 1999).

After the Mexican revolution from Spain in 1821 and subsequent secularization of the missions in 1834, land grants were made to Mexican rancheros. Much of the land that today comprise the County of Riverside and environs were formerly Rancho Jurupa, Rancho San Jacinto Sobrante, Rancho San Jacinto Viejo, and Rancho San Jacinto Nuevo y Potrero (San Bernardino County 2019). Two years after the end of the Mexican and American War, California became an American state in 1850. The rancho lands were tied up in ownership disputes as a result of the Land Act of 1851, which required an investigation into the legitimacy of all land claimed under Mexican Period grants, and the agrarian lifestyle continued much as it had in the previous decades. The Colorado desert regions to the east remained largely unsettled by Europeans although they had been explored by Spanish and Mexican military in the early 19th century.

Beginning in 1848, the California Gold Rush brought both Mexican and American prospectors through the Colorado Desert to the San Jacinto Valley and other inland valley areas west of Palm Springs. Shortly thereafter, in the 1860s, Jack Summers, considered the first non-Indian settler in the Palm Springs area, established the stagecoach station in Agua Caliente (Palm Springs 2020). With increasing contact from the outside came increasing exposure to disease and in 1862-3 and 1865, smallpox and measles epidemics greatly changed Cahuilla demographics and undoubtedly weakened the traditional economic system (Schaefer 1995). In the 1870s, the American government surveyed for, and financially assisted with (in the form of sections of land deeded to the railroad as incentive), the development of the Southern Pacific Railroad through San Gorgonio pass connecting Indio and Los Angeles. Thus, when President Grant established the Agua Caliente Indian Reservation, only the even-numbered sections, not previously given to the railroad, were included in the Reservation in the Townships

neighboring the original reserved Section 14 and a portion of Section 22. Because the Agua Caliente Cahuilla retained ownership of the land even after the 1891 Mission Indian Relief Act authorized allotments (wherein the allotted land could be sold), the Tribe and its members retain land that comprises today the largest single land ownership in Palm Springs (Agua Caliente Band of Cahuilla Indians 2020).

It was at this time also, in the 1870s, that the Andreas family, descended from the ancestral residents of Andreas Canyon, first occupied the Rincon Village. The occupation was an agricultural village, today represented archaeologically by stone structures, stone-lined irrigation ditches, field remnants, and habitation debris including potsherds and historic materials. The village was abandoned in 1908 when an adjacent white farmer diverted irrigation water away from the Andreas farm (Andreas and King 1971).

Through the second half of the 19th century, it was irrigation agriculture that became the staple industry of the inland valleys of Southern California, including the San Bernardino Valley, the San Jacinto Valley, and the Coachella Valley desert lands to the east. The completion of the Southern Pacific Railroad and the discovery of underground water in the late 19th century facilitated the development of agriculture in Palm Springs and Coachella Valley areas. John Guthrie-McCallum, a prominent settler in the 1880s, purchased property that is now the heart of Palm Springs and, with a stone- and wood-lined flume, irrigated crops of oranges, grapes, apricots, and alfalfa. Unfortunately, through the end of the 1800s, agricultural pursuits began to fail (Palm Springs Life 1984). However, McCallum had also promoted the Palm Springs area as a place of "perfect climate, wonderful scenery, pure mountain water" (Palm Springs Life 1984). His daughter ultimately developed many of the resort amenities of Palm Spring in the 1930s, initiating the resort and health-spa focus of Palm Springs in the 20th century.

In the early 20th-century, U.S. Route 99 connected Los Angeles with the Valley and further encouraged commerce and tourism. Many residents came to the Palm Springs region to improve their health. In the 1930s, Palm Springs became the desert getaway for Hollywood stars and golf and tennis clubs developed. "The Indian Canyons Golf Resort has been the jewel of Palm Springs and the Coachella Valley since 1961. Once a private club named Canyon Country Club, this 36-hole facility was a favorite haunt of Hollywood celebrities like Frank Sinatra, Bob Hope, and Jackie Gleason. Former U.S. Presidents Dwight D. Eisenhower, Lyndon B. Johnson, and Ronald Reagan also walked these fairways. The course is set on 550 acres on the Agua Caliente Indian Reservation" (Indian Canyons Golf 2020). The proposed Project is located on the Indian Canyons Golf Course. The area is also a focus of the "Mid-Century Modern" architectural style tailored to affluent residents, prominent business men, politicians, and many Hollywood celebrities.

III. METHODS

The study included 1) a records search by the Eastern Information Center; 2) a review of archival information and reports concerning the project area; 3) a field reconnaissance of the Project Direct-Impacts APE/project site; 4) a 0.5-mile-radius limited windshield-review of the Indirect-Impact APE/surrounding area; 5) a 0.5-mile-radius search for sites listed on the National Register of Historic Places and for Properties listed as eligible for the National Register in the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD), and 6) preparation of this report. This report utilizes the general format recommended by the California Office of Historic Preservation: "Archaeological Resource Management Reports (ARMR): Recommended

Contents and Format" (OHP 1989). Research materials and field notes, associated with this investigation are currently on file at Heritage Resources, P.O. Box 8, Ramona, California, 92065.

A. Research Methods

Record searches were completed at the Eastern Information Center for the Direct-Impact APE and the 0.5-mile radius Indirect-Impacts APE. An on-line search of the National Parks Service website and the Wikipedia National Register website was conducted to identify any properties listed on the National Register of Historic Places within 0.5-mile. The California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD) was searched for Properties identified as appearing eligible for the National Register (Status codes 1D, 1S, 2B, 2D, 2D2, 2D3, 2D4, S, S2, S3, S4, 3B, 3D, 3S, and 4CM) within 0.5-mile. Other research materials included primary and secondary sources in the author's research library and available on-line.

B. Field Methods

The Direct-Impacts APE (the Project site footprint plus a 20-foot buffer), inspected by archaeologist Sue Wade on October 13, 2020, is located in the south-central portion of the Indian Canyons Golf Course between Goldenrod Lane and South Palm Canyon Drive. The Project Direct-Impact APE includes the utility connection location approximately 150 north and 150 feet east of a cul-de-sac at the north extent of Goldenrod Lane, utility trenching from the connection approximately 800 feet west to an existing pump house, construction of the AT&T shelter containing communication facilities just west of the pump house, and construction of an approximately 54-foot tall monopalm cell tower between and just north of the existing pump house and the proposed shelter. The entire Project-location-plus-20-foot-buffer/Direct-Impact APE was inspected on foot. Although the majority of the survey area was covered in grass, it was mostly a brown stubble mowed to the ground making surface visibility good to excellent. Representative photographs were taken (Attachment 2).

The Indirect-Impacts APE was inspected via a windshield review. No historic resources are recorded to the north, east, or west within the 0.5-mile radius. The potential for adverse visual impacts from the north portion of Andreas Canyon Archaeological District, listed on the National Register of Historic Places, was assessed from a point along Palm Canyon Drive and a representative photograph was taken (Attachment 2).

IV. RESULTS

A. Research

The details of the archival research are presented in Section II.B. above. In summary, the project site is located within the territory traditionally occupied by the Cahuilla. Prehistoric use of the surrounding area was intense due to the location at the mouth of Andreas and Murray Canyons, which contain abundant water and food resources, and the hot springs to the north. Early historic development, both by the Cahuilla and the white settlers, focused on limited agriculture that could be irrigated by canyon flows. Twentieth-century use surrounding the proposed Project facility was focused on promotion of area's health benefits and recreation opportunities to the affluent. Development of golf courses, tennis clubs, and "Mid-Century Modern" architectural style residences reflect this lifestyle.

There is one listing on the National Register of Historic Places (NRHP), also listed as eligible for the National Register on the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD),

within the Indirect-Impact APE (within 0.5 mile of the Project facility). This is the Andreas Canyon Archaeological District located approximately 0.47 mile to the southwest.

Twenty-one archaeological/historical studies are documented at the EIC as having been completed within one-half mile of the Project. Two related to the redevelopment of the Indian Canyons golf course property, produced positive results within the Indirect-Impact APE: P-33-00055, a lithic scatter, and P-33-004125, a historic site. Additional resources recorded include a prehistoric/historic site, a site consisting of buried hearths, a lithic scatter, a ceramic scatter, and an isolated mano. None of these are listed as eligible on the BERD and none are identified as contributing properties to the Andreas Canyon Archaeological District. While the northern edge of the rectangular boundary of the Andreas Canyon Archaeological District (P-33-11073) runs along Bogert Trail just south of the golf course in the location of the proposed Project, the closest contributing property of the District is site P-33-00516, the northern boundary of which is located approximately 0.47 mile to the south-southeast.
The surveys and resulting archaeological/historical sites are listed in Tables 1 and 2 below.

Table 1: Cultural Resource Management Reports Within One-Half Mile of the Project Site

Report# -	Author	Date	Title	Resources Recorded within 0.5 mile
RI-00056	Alexander Kikish	1972	A Preliminary Report on The Archaeological Survey of Eagle Canyon, Palm Springs, CA	none
RI-00148	Richard A. Weaver	1984	Environmental Impact Evaluation: Archaeology of the Proposed Reservoir Site and Pipeline Route for the Desert Water Agency, Palm Springs, California.	33-000516
RI-00181	Jennifer Taschek-Ball	1978	San Diego State University Foundation, San Diego State University	33-000516
RI-00192	James W. Kershaw	1976	Environmental Impact Evaluation: Historical Overview and Archaeological Reconnaissance of Palm Springs	33-000055
RI-01003	James D. Swenson	1979	Letter Report: Archaeological Assessment of a 15 Acre Parcel	None
RI-01133	Bruce Love and Bai "Tom" Tang	1996	Cultural Resource Assessment Report, Phase II: Archaeological Testing and Site Evaluation Sites CA-Riv516, CA-Riv-517, and CA-Riv-2621/H Near Riverside County, California	33-000516
RI-01543	Swenson, James D. And Daniel Mccarthy	1982	An Archaeological Assessment of Tentative Tract No. 14920 (Revised), Located on The Agua Caliente Indian Reservation, Riverside County, California	none
RI-01782	Mccarthy, Daniel F.	1984	An Archaeological Assessment of Tt 18879 (Revised 3/8/84), Palm Canyon Area of Riverside County, California	33-002799
RI-01863	Mccarthy, Daniel F.	1984	An Archaeological Assessment of Tract 16495, South of Palm Canyon-Hillside Property, Palm Springs, Riverside County, California	None
*RI-03146	Cultural Systems Resources, Inc.	1990	A Cultural Resources Assessment of The Canyon Club Development Project Located in Palm Springs, Central Riverside County, California	33-000055, 33-004125
*RI-03147	Cultural Systems Research, Inc.	1991	Phase I. Cultural Resource Study: Archaeology/Ethnography, Canyon Development Project, Palm Springs, California, Central Riverside County, California	none
RI-04209	White, Lauri S. And Robert S. White	1999	An Archaeological Assessment of The Palm Canyon Wash Stabilization Project, Bogart Trail Bridge at Palm Canyon, Palm Springs, Riverside County.	none
RI-04688	O'neil, Stephen	2003	Cultural Resources Monitoring of The Acanto Parcel, City of Palm Springs, Riverside County, California	33-012844, 33-012845
RI-06065	Mcginnis, Patrick, And Michael Baksh	2004	Cultural Resource Survey Report for The Ridge Mountain Project, Riverside County, California	none
RI-07198	Duke, Curt	2002	Cultural Resource Assessment: AT&T Wireless, Facility No. 06001A, Riverside County, CA	none
RI-07486	Price, David H. and Barry A. Price	2007	Cultural Resources Survey for the South Palm Canyon Drive Street and Bridge Widening Project in Palm Springs, Riverside County, California	none
RI-07606	Patrick McGinnis and Michael Baksh	2005	Cultural Resource Survey Report for the 1.17-Acre Mountain 5 Project, Riverside County, CA California	none
RI-07608	MCGINNIS, P And BAKSH, M.	2005	CULTURAL RESOURCE SURVEY REPORT FOR THE 2.35 ACRE RIDGE MOUNTAIN 9 PROJECT RIVERSIDE COUNTY, CALIFORNIA	none
RI-08588	Marnie Aislin-Kay and Wayne H. Bonner	2008	Letter Report: Cultural Resource Record Search and Site Visit Results for TowerCo Assets LLC Candidate CA2513	none
RI-09370	Bai "Tom" Tang, Deirdre Encarnacion, Daniel Ballester, and Terri Jacquemain	2015	Historical/Archaeological Resources Survey Report: Tentative Tract Map No. 36723, Assessor's Parcel No. 512-190-038, City of Palm Springs, Riverside County, California	none
RI-10203	Diane F. Bonner, M.S. and Robert J. Wlodarski	2009	Letter Report: Cultural Resources Record Search and Archaeological Survey Results for the proposed Royal Street Communications, California, LLC, Site LA3623A (TowerCo Colo CA2513 Murray Canyon Golf) located at 1100 East Murray Canyon, Palm Springs, Riverside County, California, 92264	none

* Report includes current Project area/APE

Table 2: Archaeological/Historical Resources Within One-Half-Mile of the Project Site

CHRIS # P-33-	Description	Approx. Distance from Project	Recorded by	Recommended NRHP Eligibility Assessment
P-33-000055	AP02, "Palm Canyon"	0.2 mile NW	1976 (Kershaw, n/a)	not noted in record search
P-33-000516	AH02, AH07, AH16, AP04, Rincon Village	0.47 mile and further S and SW	1971 (Anthony Andreas, Tom King, Dept. of Anthropology, Univ. of Calif., Riverside.); 1979 (S. Berryman, n/a); 1983 (M. Macko, J. Weisbord, B. Helman, Vance G. Bente, n/a); 1996 (Bruce Love, CRM Tech); 2001 (Drew Pallette, ASM Affiliates Inc.); 2001 (John Dietler, Andrew Pigniolo, and Stephanie Murray, Tierra Environmental Services); 2001 (Drew Pallette, ASM Affiliates Inc.); 2009 (n/a, Ecorp Consulting)	1D
P-33-002799	Prehistoric/Historic Site	0.45 mile SSE	1984 (Daniel F. McCarthy)	not noted in record search
P-33-004125	Historic Site	0.4 mile SSE	1990 (Drew Pallette, Brian F, Mooney Associates, 9903-B Businesspark Ave., San Diego, CA 92131)	not noted in record search
P-33-011073	AP02; AP03; AP04; AP05; AP06; AP07; AP09; AP10; AP11; AP12; AP14; AP15; AP16, Andreas Canyon Archaeological District,	0.47 mile and further S and SW	1971 (Anthony Andreas and Thomas King, Agua Caliente Band of Mission Indians); 2009 (Jerry Schaefer and Ken Hedges, ASM Affiliates, Inc.)	National Register District: 1S
P-33-012844	AP11, Hearths, buried (n=18)	0.43 mile SW	2003 (Stephen O'Neil, SWCA Environmental Consultants)	not a contributing property due to removal through data recovery excavations
P-33-012845	AP16, Isolated mano	0.4 mile SW	2003 (Stephen O'Neil, SWCA Environmental Consultants)	not a contributing property as isolate
P-33-013540	AP02	0.25 mile SE	1982 (J. H. Toejes, n/a)	not noted in record search
P-33-024831	AP03	0.23 mile SW	2015 (Agua Caliente Band of Cahuilla Indians, Agua Caliente Band of Cahuilla Indians)	not noted in record search

AP02 = lithic scatter; AP03 = ceramic scatter; AP04 = bedrock milling feature; AP05 = well/cistern; AP09 = burial; AP10 = cache; AP11 = hearth/pit; AP12=quarry, AP14 = rock shelter/cave; AP15 = habitation debris; AP16=other

AH01 = unknown; AH02 = foundations/structure pads; AH03 = landscaping; AH04 = privy pit, trash scatter, dump; AH5=well/cistern, AH06 = water conveyance system; AH07 = road, trail, railroad bed;' AH09 = mine; AH10 = machinery; AH11 = wall, fence; AH12 = grave/cemetery; AH15 = standing structure; AH16 = Other

HP02 = single family property; HP03 = multiple family property; HP04 = ancillary building; HP06 = commercial building; HP07=3-story commercial building, HP13 = community center/social hall; HP14 = government building; HP20 = canal/aqueduct, HP22 = lake, river, reservoir; HP30 = trees, vegetation; HP33 = farm, ranch; HP37 = highway, trail; HP44 = adobe building/structure; HP46 = wall, gate, fence

B. Field Survey

As a result of the October 13, 2020 archaeological survey of the Direct-Impacts APE no archaeological resources were discovered. As described above, the Direct-Impacts APE is in a grass-covered golf course, although at the time of the survey the grass was a brown close-mowed stubble and visibility was good to excellent. There are several mounded areas within the survey area and it is unclear if these are natural topography or man-made golf course features. Palms and acacia shrubs were observed. (see Attachment 2 for representative photographs.)

The view to the proposed Project location from Andreas Canyon Archaeological District was assessed from Palm Canyon Drive where it turns south approximately 0.7 mile south of the proposed Project. This is the within the east central portion of site P-33-00516 within the District. Given the intervening dozens of residences and landscape, the proposed Project location was not discernable and there appears to be no potential for visual Indirect-Impacts to the Andreas Canyon Archaeological District. (see Attachment 2 for representative photographs.)

V. MANAGEMENT CONSIDERATIONS

A. Regulatory Considerations

a. Section 106 of the National Historic Preservation Act / National Register of Historic Places

Section 106 of the National Historic Preservation Act, / 36 CFR 800.4(c)(1). establishes a consultation process which is intended to provide for historic preservation concerns within the needs of Federal endeavors. The process requires that prior to approval of an endeavor, the Advisory Council on Historic Preservation be provided a reasonable opportunity to comment on the project. Consulting parties are the primary participants in this process and may include Federal Agencies, the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation and other interested persons (local governments, applicants, Native American individuals and groups, and the general public). The Section 106 process applies to projects involving Federal land, funds or permits. It requires a Federal Agency with jurisdiction over a Federal, federally assisted, or federally licensed endeavor to take into account the effects of the agency's endeavor on properties included in or eligible for the National Register.

The National Register of Historic Places Criteria for Eligibility identify "the range of resources and kinds of significance that will qualify properties for listing in the National Register. … Decisions concerning the significance, historic integrity, documentation, and treatment of properties can be made reliably only when the resource is evaluated within its historic context. … 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: 1) that are associated with events that have made a significant contribution to the broad patterns of our history; or 2) that are associated with the lives of persons significant in our past; or 3) 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 4) that have yielded, or may be likely to yield, information important in prehistory or history" (U.S. Department of Interior, National Park Service 1982).

b. Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission

In 2004, to facilitate Federal Communications Commission compliance with Section 106 of the National Historic Preservation Act, the Advisory Council on Historic Preservation, the Federal Communications Commission, and the National Conference of State Historic Preservation Officers executed a Nationwide Programmatic Agreement. This Nationwide Agreement outlines the Applicability and Scope of the Agreement; Definitions; Undertakings Excluded from Section 106 Review; Participation of Indian Tribes and Native Hawaiian Organizations in Undertakings off Tribal Lands; Public Participation and Consulting Parties; Identification, Evaluation, and Assessment of Effects; Procedures; Emergency Situations; Inadvertent or Post-Review Discoveries; Construction Prior to Compliance with Section 106; Public Comments and Objections; Amendments; Termination; Annual Review; Reservation of Rights; and Severability. The methods employed for the current Project review comply with the section regarding Identification, Evaluation, and Assessment of Effects.

B. Findings

Archaeological field survey was completed for the East Murray Canyon Drive Cell (CSL06223) Project Direct-Impact APE and archival research was conducted for both the Project Direct-Impact APE and the Indirect-Impact APE. No archaeological or historical resources were identified in the Project Direct-Impact APE. The Andreas Canyon Archaeological District is listed on the National Register of Historic Places within the Indirect-Impact APE (P-33-000516 being a part of P-33-11073/Andreas Canyon National Register District). No additional resources are identified as eligible for the National Register on the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD) within the Indirect-Impact APE. Observation in the direction of the proposed Project, from an elevated area on Palm Canyon Drive within the northern portion of the Andreas Canyon Archaeological District, revealed that the proposed Project improvements will not be visible from this location or in all likelihood from other northern portions of the District closest to the proposed Project. Given that the current research and survey identified no archaeological resources within the Direct-Impact APE and no effects on historical resources listed on the National Register of Historic Places or listed as eligible on the California Office of Historic Preservation's 2020 Built Environment Resources Directory (BERD) within the Indirect-Impact APE, a finding of "No Historic Properties" for the Direct-Impact APE and "No Effect on Historic Properties" for the Indirect-Impact APE is recommended. Additionally, the Agua Caliente Tribal Historic Preservation Office (THPO) has consulted the Agua Caliente Archive and has determined no historic properties are located in this project area, however, due to its proximity to the Andreas Canyon National Register District and the adjacent canyons, the THPO has requested the presence of ACBCI cultural monitors.

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Attachments

1) **Eastern Information Center Record Search Confirmation**

2) **Photographs**

Attachment 1: EIC Record Search Confirmation

EASTERN INFORMATION CENTER
UNIVERSITY OF CALIFORNIA, RIVERSIDE
(951) 827-5745
FEDERAL TAX ID NO. 95-6006142
MAKE CHECKS PAYABLE TO: UC REGENTS

TO: Heritage Resources
P.O. Box 8
Ramona, CA 92065

October 7, 2020

REFERENCE NO.: 14042
CAMPUS ID: N60-52-8512
CHRIS ACCESS & USE AGREEMENT NO.:239

AMOUNT DUE:

In-house Records Searches/Other Services

EIC Tracking Number	Job/Requestor/Date	Hours @ $100/hr	Hours @ $40/hr	Copies @ 15¢/pg	Spreadsheet @ 25¢/line	{Other}
DY-5709	IE04543A,CSL04886,CSL06352,San Bern.NF-M,CSL06223,IE04678A,IE94445A,CA40714-T,CA40797-T,IE04635A / Sue A. Wade / May 12, 2020	3	0	322	152	0
DY-5706	CSL04964,IE04721C,CRAN_RLOS_ARLNG_022_024_018_006_012_014,IE25830A,IE04351A,CSL02187,CSL05468 / Sue A. Wade / May 06, 2020	2.5	0	443	225	0

Staff Records Searches

EIC Tracking Number	Job/Requestor/Date	Hours @ $150/hr	Copies @ 15¢/pg	Spreadsheet @ 25¢/line	{Other}	Total
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Attachment 2: Photographs

Photograph 1: Overview from the mid-point of the proposed Project: proposed utility trench location and connection point, view to east

Photograph 2: Overview from the mid-point of the proposed Project: proposed utility trench location and facility enclosure/monopole (at arrow), view to west

Photograph 3: View along proposed utility trench from east end of proposed Project at utility connection point, view to west

Photograph 4: View from east end of proposed Project at utility connection point, view to north

Photograph 5: View over east end of proposed Project at utility connection point, view to east

Photograph 6: View over east end of proposed Project at utility connection point, view to south

Photograph 7: View to west east end of proposed Project at pump house and proposed facility enclosure / monopole, view to west

Photograph 8: View to west east end of proposed Project at pump house and proposed facility enclosure / monopole, view to north

Photograph 9: View to west east end of proposed Project at pump house and proposed facility enclosure / monopole, view to east

Photograph 10: View to west east end of proposed Project at pump house and proposed facility enclosure / monopole (at arrow), view to south

Photograph 11: View from golf course hill just south of west end of proposed Project at pump house and proposed facility enclosure / monopole, toward Andreas Canyon, view to south

Photograph 12: View from elevation along Palm Canyon Drive at P-33-00516 within Andreas Canyon Archaeological District, approximately 0.7 mile south of proposed Project (not visible), view to north

Elaine Langer

From: Hall, Harold <Harold.Hall@bia.gov>
Sent: Thursday, January 28, 2021 11:08 AM
To: Elaine Langer
Cc: Broussard, Chad N
Subject: Fw: [EXTERNAL] FW: East Murray Canyon Drive Palms Springs Cell CSL06223 Project
Attachments: EastMurrayCanyonRoadPalmSpringsCSL06223,2020-12-07.pdf

Hi Elaine,

Please see the email below from the Tribe's THPO indicating the absence of historic properties within the project area. I'm also attaching Sue Wade's cultural resources report. Please let me know if you need anything else.

Dan Hall
Regional Archeologist
Bureau of Indian Affairs-Pacific Region
2800 Cottage Way
Sacramento, CA 95825
916.978.6041
harold.hall@bia.gov

From: THPO Consulting <ACBCI-THPO@aguacaliente.net>
Sent: Tuesday, November 24, 2020 5:51 PM
To: Hall, Harold <Harold.Hall@bia.gov>
Cc: Sue Wade <Sue@heritage-resources.com>
Subject: [EXTERNAL] FW: East Murray Canyon Drive Palms Springs Cell CSL06223 Project

Hi Dan,

I forgot to copy you on the email below.

Happy Thanksgiving,
Pattie

Best regards,
Pattie

Patricia Garcia-Plotkin
Agua Caliente Band of Cahuilla Indians
Director of Historic Preservation
5401 Dinah Shore Drive

Palm Springs, CA 92264
Cell (760)567-3761
ACBCI-THPO@aguacaliente.net

***Due to COVID-19 the THPO is operating remotely with a reduced staff. Please send all correspondence to our department email address

---

From: THPO Consulting <ACBCI-THPO@aguacaliente.net>
Sent: Tuesday, November 24, 2020 5:48 PM
To: Sue Wade <Sue@heritage-resources.com>
Cc: THPO Consulting <ACBCI-THPO@aguacaliente.net>
Subject: East Murray Canyon Drive Palms Springs Cell CSL06223 Project

Hi Sue,

Thank you for submitting the cultural report for the East Murray Canyon Drive Palms Springs Cell CSL06223 Project. I have reviewed the report and have two comments. 1) site 33-000516 is part of 33-011073/ Andreas Canyon National Register district. 2) Also please incorporate the following statement into your report- "The Agua Caliente Tribal Historic Preservation Office (THPO) has consulted the Agua Caliente Archive and has determined no historic properties are located in this project area, however, due to its proximity to the Andreas Canyon National Register District and the adjacent canyons, the THPO has requested the presence of ACBCI cultural monitors."

Additionally, for future reports in the Agua Caliente traditional use area, please review and incorporate elements of the attached THPO historic preservation management plan and research design into your reports and cite as a reference. Please let me know if you have any questions or require additional information.

Safe travels and happy holiday!

Best regards,
Pattie

Patricia Garcia-Plotkin
Agua Caliente Band of Cahuilla Indians
Director of Historic Preservation
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Palm Springs, CA 92264
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***Due to COVID-19 the THPO is operating remotely with a reduced staff. Please send all correspondence to our department email address

Agua Caliente Band of Cahuilla Indians

HISTORIC PRESERVATION MANAGEMENT PLAN

Prepared by:

Patricia Garcia, Director of Historic Preservation
Agua Caliente Band of Cahuilla Indians
Tribal Historic Preservation Office
5401 Dinah Shore Drive
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Kim Maeyama, Ph.D.
Archaeologist
And
Rachael Nixon, RPA
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4225 Executive Way Square
La Jolla, CA. 92037

Table of Contents

Executive Summary 1

Introduction 1
- Purpose 2
- Process/Methodology 2

Background Setting 3
- Summary of Existing Preservation Laws 4
- Summary of Existing Preservation Plans 14
- Summary of Successful Tribal Preservation Programs 14
- Cultural Context 15

Identification of Historic Properties 21
- Historic Properties and Cultural Resource Types Known within, or Potentially within, the Agua Caliente Reservation and TUA 22
- Criteria for Resource Significance 29

Management Issues 31
- Issue 1. Cultural Continuity 31
- Issue 2. Cultural Landscapes and Traditional Use Area (TCPs) 33
- Issue 3. Land Use Planning 33
- Issue 4. Information Management 34
- Issue 5. Preservation of Cultural Resources and Cultural Knowledge 36
- Issue 6. Outreach & Education 39
- Issue 7. Preserving the Recent Past 39

Management Recommendations & Mitigation Measures 39
- Archaeological Resources 40
- Built Environment (Architectural History) Properties 43

Implementation Procedures 44
- Procedures for Tribal Membership and Community Involvement 44
- Procedures for Inadvertent Discovery 44
- Procedures for Vandalism and Looting 44
- Digital Data Recordation and Information Management Procedures 45
- Treatment of Human Remains 45
- Procedures for Curation 45
- Reporting Requirements 46
- Education and Outreach 47

References 48

Glossary 79

Executive Summary

As stewards of the Tribe's heritage, the Agua Caliente Tribal Historic Preservation Office (THPO) is responsible for the protection, preservation, and management of a wide array of archaeological sites, historic-period properties, as well as native expanses of land which are of traditional or ceremonial importance to Tribal membership. The responsibilities of the THPO are not limited to the confines of the current Reservation, but extend well beyond Reservation boundaries to include a large swath of territory extending as far east as the Colorado River and west to include the San Jacinto and Santa Rosa Mountains. In order to best protect the cultural heritage while simultaneously promoting the economic development and advancement of the Tribe and its membership, the THPO obtained financial support to develop an Historic Preservation Management Plan (HPMP) that will offer guidance to Tribal staff and other interested practitioners within the preservation community.

This HPMP represent the result of a collaborative effort by the Agua Caliente Tribal Historic Preservation Office (THPO) to develop a document that will serve as a guide for practitioners wishing to conduct cultural studies within the Reservation and the Tribal Traditional Use Area (TUA). Incorporated into this HPMP is a discussion of legislative requirements, background setting, current management issues that are of importance to the Agua Caliente Tribe, as well as guidance for the identification of historic properties. This HPMP attempts to provide a range of recommendations and approaches for the management of resources, and clearly define the roles and responsibilities of management entities, partners, and other stakeholders.

Introduction

The mission of the Agua Caliente Band of Cahuilla Indians' Tribal Historic Preservation Office is to foster, improve, and protect the cultural heritage of the Agua Caliente Band of Cahuilla Indians ("Tribe") while the Tribe pursues economic development on its lands. The Tribe's cultural heritage must be protected for future generations of the Agua Caliente people. Designated by the National Park Service (NPS) in 2005 as a THPO, this office works with the Tribal Council, the tribal membership, other tribal departments and programs, and federal, state, and local agencies to identify and protect places of cultural significance. The Tribal Historic Preservation Office also works with the Agua Caliente Cultural Museum.

Despite the programs and policies in place, the Tribe's cultural heritage remains at risk. On-going development continues to threaten various resources of the tribal heritage – beginning with historic buildings to archaeological sites to traditional cultural places. The primary purpose of this HPMP is to provide guidance to archaeologists, Tribal staff, federal agencies and local municipalities and the wider preservation community for the identification, registration, protection, and preservation of important historic resources, and to establish priorities for the THPO program.

This HPMP is the product of one of the assumed State Historic Preservation Office (SHPO) responsibilities by the THPO and receipt of financial support from the Administration for Native American's (ANA) Environmental Regulatory Funding Grant Program.

Purpose

This HPMP is based upon acquired Tribal traditional knowledge obtained through collaboration between the Agua Caliente Tribal Historic Preservation Office, Tribal Elders and Membership, with support provided by URS Corporation. This draft HPMP will provide direction for the management of "historic properties" as defined in the National Historic Preservation Act (NHPA; as amended) however it may also be applicable to other cultural resources common to the Agua Caliente Reservation, outlying Tribal lands, as well as the immediate environs. As the recognized steward of cultural resources and historic properties within the Reservation and outlying Tribal lands, the Agua Caliente THPO is responsible for the identification and management of Tribal cultural assets as well as the preservation of these assets through the identification and mitigation of potential impacts to such resources. In some instances where NHPA applies, the THPO may or may not assume the role typically held by the State Historic Preservation Office (SHPO).

This HPMP represents the Tribe's plan for the next five years (2011-2016) and the goals and objectives contained within reflect the THPO's mission and tribal, federal and state mandates. The plan is seen as a roadmap for more effective and efficient delivery of services, and a guide to help the THPO direct resources to areas of greatest need in ways that better serve the preservation needs of the Tribe.

The purposes of this HPMP can be broken down into the following:

- Encourage collaborative relationships between the THPO, agencies, non-Tribal landowners, planners, archaeologists, historians, or other researchers.
- Identify known cultural resources within the Reservation or within Tribal landholdings located outside of the Reservation that are eligible or are otherwise significant to the history of the Agua Caliente Band of Cahuilla Indians.
- Increase the Tribal Community's understanding of cultural resources located within the Reservation and TUA and cultural resources management, so as to improve awareness and afford more opportunity for involvement.
- Present guidance and recommendations for the management and protection of cultural resources considered to be significant to the Tribal Membership or Tribal history.
- Provide general guidance and procedures for the non-Tribal, academic and professional communities that may have future involvement in the study or investigation of cultural resources within the Reservation or the Agua Caliente TUA

Process/Methodology

This HPMP was prepared by the THPO in consultation with the Agua Caliente Tribal Council, Agua Caliente tribal membership, neighboring tribes, federal and state agencies, and local municipalities. Several years ago the THPO drafted a preservation plan but it was never finalized and implemented. Recognizing the need the THPO applied and was awarded a grant the Administration for Native American's to develop a research design to provide

direction regarding any archaeological/cultural study conducted on the reservation and traditional use area, develop a historic preservation management plan for the Reservation and Traditional Use Area and to update Tribal Historical Preservation Code, Sections 2.24.010 "Authority," 2.24.020, "Purpose" and 2.24.030 "Organization."

The first year of the grant focused on conducting research and consulting with federal agencies, state agencies and neighboring tribes. Sean Milanovich, Cultural Specialist, focused efforts on researching tribal codes. The THPO selected URS, Corporation to co-author the HPMP and Research Design for the grant project. Key staff from URS participating in writing this document is Kim Maeyama, Ph.D, Rachael Nixon, RPA. Jeanne Jussila, Grant Manager for ACBCI coauthored the proposal with Patricia Garcia and handled al management of grant progress, financial reports and contract management. The grant project was managed by Patricia Garcia who co-authored the HPMP, Research Design and Tribal Codes.

The plan is focused on the following issues:

1. Cultural Continuity
   - Advisory board
   - Repatriation
2. Cultural Landscapes, Traditional Cultural Properties-TCP, and the Traditional Use Area
3. Land Use Planning
   - Land status
   - Section 106/CEQA/SB 18 consultation w/governments and other tribes
4. Information Management
5. Preservation of Cultural Resources and Cultural Knowledge
   - Standards and guidelines
   - Research design
   - Significance assessment (see #2)
   - Resource protection: vandalism, burials/reburial
   - Resource conservation: monitoring, mitigation (see #3), and curation of collections and information (see #4)
   - Non-undertaking-related inventory of the Tribe's cultural resources
6. Outreach & Education
   - Tribal members and general public
   - Website, brochures, interpretation at existing resources
7. Preserving the Recent Past

Background Setting

A summary discussion is provided in this section, setting the background for the present HPMP. In the following summary, a brief introduction and discussion of pertinent federal, state, and local laws and regulations is provided, as well as a general discussion of existing preservation plans. Also included in the following section is a summary of successful tribal preservation programs and an overview of the regional cultural context.

Summary of Existing Preservation Laws

Cultural resources are indirectly protected under provisions of the federal Antiquities Act of 1906 (Title 16, United States Code, § 431 et seq.) and subsequent related legislation, policies and enacting responsibilities, e.g. federal agency regulations and guidelines for implementation of the Antiquities Act. The following laws, ordinances, regulations, standards and policies apply to the protection of cultural resources in California. The following table provides a summary of potentially applicable laws, ordinances, regulations, and standards that may be applicable to projects completed within the Agua Caliente Reservation, non-Reservation Tribal lands, and the broader TUA. A more detailed discussion of the most prominent preservation laws will follow.

Table 1
Summary of Applicable Cultural Resources (LORS)

Laws	***Applicability***
Federal	
National Environmental Policy Act (NEPA) (42 USC Section 4321 et seq.)	*Title 42, United States Code, section 4321-et seq., requires federal agencies to consider potential environmental impacts of projects with federal involvement and to consider appropriate mitigation measures.*
Federal Land Policy and Management Act (FLPMA) (43 USC Section 1701 et seq.)	*Requires Secretary of the Interior to manage public lands in a manner that will protect the quality of scientific, scenic, historical and archaeological values.*
Federal Register 48 44739-44738 190 September 30, 1983	*Federal Guidelines for Historic Preservation Projects: The US Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies. The State Historic Preservation Office refers to these standards in its requirements for selection of qualified personnel and in the mitigation of potential impacts to cultural resources on public lands in California.*
National Historic Preservation Act (16 USC Section 470 et seq.)	*Establishes national policy of historic preservation; requires that Federal agencies consider effects to significant cultural resources (i.e., historic properties) prior to undertakings.*
Section 106 of the Federal Guidelines (16 USC Section 106) of the National Historic Preservation Act	*Requires Federal agencies to take in to account the effects of Projects on historic properties (resources included in or eligible for the National Register of Historic Places (NRHP). It also gives the Advisory Council on Historic Preservation (ACHP) and State Historic Preservation Offices (SHPO) an opportunity to consult. Federal agencies issuing permits for the Rio Mesa SEGF*

Laws	***Applicability***
	Project would be required to comply with NHPA requirements.
Executive Order 11593, Protection of the Cultural Environment", May 13, 1971 (36 Federal Register, 8921)	*This orders the protection and enhancement of the cultural environment through providing leadership, establishing state offices of historic preservation, and developing criteria for assessing resource values. American Indian Religious Freedom Act*
Antiquities Act of 1906 (16 USC Sections 431-433)	*Establishes criminal penalties to protect cultural resources on Federal lands.*
Archaeological Resources Protection Act of 1979 (16 USC Section 470aa-470mm)	*Provides protection for archaeological resources from collecting on public lands and Indian lands.*
Native American Graves Protection and Repatriation Act (1990) (25 USC Sections 3001 et seq.)	*Title 25, United States Code Section 3001, et seq. defines "cultural items", "sacred objects", and "objects of cultural patrimony"; establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for return of specified cultural items.*
American Indian Religious Freedom Act: 42 USC Section 1996	*Provides protection of exercise of Native American religious practices.*
State	
Public Resources Code Section 21083.2, California Environmental Quality Act (CEQA)	*Requires public agencies to evaluate impacts to cultural resources; provides guidance for evaluating and mitigating impacts; requires efforts be taken to preserve resources.*
Public Resources Code Section 21084.1, California Environmental Quality Act (CEQA)	*Establishes that a Project that may cause a significant adverse change in a significant historical resource is a Project that may be considered to have adverse effects on the environment.*
CEQA Guidelines Title 14 California Code of Regulations (CCR) Section 15064.4 subsection (b)	*Establishes mitigation measures related to impacts on historical resources.*
CEQA Guidelines Title 14 California Code of Regulations (CCR) Section 15064.5	*Defines "historical resource," addresses reburial options for Native American remains, and presents the preferred mitigation of historical resources.*
CEQA Guidelines Title 14 CCR Section 15064.7	*Encourages development of thresholds of significance and defines "cumulatively significant"*
CEQA Appendix G Section V	*Provides a checklist identify potential impacts to historical, cultural or paleontological resources*
Public Resources Code Section 5020.1	*Defines several terms including "historical resource" and "substantial adverse change."*
Public Resources Code Section 5024.1	*Establishes the California Register of Historical Resources (CRHR) and criteria for listing.*
Public Resources Code Section 5097.5	*Makes the unauthorized removal or destruction*

Laws	***Applicability***
	of archaeological or paleontological resources on sites located on public land a misdemeanor.
Public Resources Code Section 5097.98	*Discusses the procedures that need to be followed upon the discovery of Native American human remains.*
Public Resources Code Section 5097.99, 5097.991	*Establishes that removal of Native American grave artifacts or remains is a felony. Establishes that it is the policy of the state to repatriate Native American grave artifacts.*
Health and Safety Code Section 7050.5	*Makes it a misdemeanor to disturb or remove human remains found outside a cemetery.*
Health and Safety Code Section 810-8011	*Establishes procedures for notification in the event of the discovery of human remains. Requires construction to be halted and the County Coroner to be contacted if human remains are encountered.*
California Penal Code Section 622.5	*Makes it a misdemeanor to willfully damage an object or thing of archaeological or historic interest.*
Local	
Riverside County General Plan, Chapter 5, Open Space Policies 19.2-19.4	*Provides that the County will promote the preservation of cultural and historic resources, and promote Native American consultation.*
Riverside County General Plan, Chapter 5, Open Space Policies 19.5-19.7	*Calls for historic structure evaluation and enforcement of the Historic Building Code during development Projects.*

Federal Level

Taking the initiative to protect and preserve cultural resources has been a long-standing tradition within the United States, as has it been of great importance to the Native tribes whose lands are within the broader realm of the United States. On the federal level, a multitude of actions have been taken for the preservation of the Nation's cultural heritage dating back to the 1800s with the establishment of the Library of Congress (King 2008: 16; Stapp and Burney 2002). Over the course of time, on-going concern over environmental and resource management, development practices, and their effect on heritage properties resulted in the continued formulation of cultural resource protection policies and laws. By the 1960s, Native American communities fought for inclusion in the decision-making process and thereby assuming a more prominent roll.

Antiquities Act of 1906 (as amended)

As per Title 16 of the United States Code, Sections 431-433, this act establishes criminal penalties to protect, and provides authorization for scientific investigation through the acquisition of necessary permission of, cultural resources on Federal lands. This act likewise allows for the President to set public lands aside as National Monuments or to receive private lands donated for the purpose of designation as National Monuments.

Historic Sites Act of 1935

Enacted in 1935, the Historic Sites Act (PL 74-292) appointed the Secretary of the Interior as the responsible party for the establishment of the National Survey of Historic Sites and Buildings and was chiefly responsible for instituting the US government relationship with cultural resources preservation. Central to this act was the concept that, regardless of the originator and whose ancestors they may be, cultural resources are important to the entire nation (Watkins, 2005b: 178).

Reservoir Salvage Act of 1960

Enacted under PL 86-523, the Reservoir Salvage Act permitted the allocation of funds for the recovery and preservation of data, both historical and archaeological, that may potentially be destroyed or otherwise lost due to federally supported or permitted construction of water management facilities and activities, particularly the construction of damns, reservoirs, and affiliated structures. It is with this act that the tenet that the federal government is responsible for its actions, especially when those actions may impact cultural resources (Watkins, 2005b: 179).

National Historic Preservation Act (NHPA) [16 U.S.C. Section 470 et seq.]

In 1966, the National Historic Preservation Act was enacted, establishing the federal government policy on historic preservation and the creation of the programs – including the NRHP – through which this policy is implemented. Under the NHPA, significant cultural resources, referred to as historic properties, include any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. Historic properties also include resources determined to be National Historic Landmarks (NHL). National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior (SOI) because they possess exceptional value or quality in illustrating or interpreting United States heritage. A property is considered historically significant if it meets one of the NRHP criteria and retains sufficient historic integrity to convey its significance. This act also established the Tribal Historic Preservation Office and the Advisory Council on Historic Preservation (ACHP), an independent agency responsible for implementing Section 106 of NHPA by developing procedures to protect cultural resources included in, or eligible for inclusion in, the NRHP. Regulations are published in 36 CFR Part 60 and 63, and 36 CFR Part 800.

In 1992 amendments to the NHPA were made, many of which were intended to encourage and thus increase participation by Native populations including Native Alaskans and Hawaiians, as well as Indian tribes. One of the amended provisions permitted for the establishment of the Tribal Historic Preservation Officer (THPO) and allowing for NPS-approved tribal preservation programs to assume the functions and responsibilities of the SHPO, on tribal lands (King 2008: 41).

36 CFR Part 800 Implementing Regulations, Section 106, National Historic Preservation Act

Section 106 requires that effects on historic properties be taken into consideration in any federal undertaking. The process contains five steps: (1) initiating Section 106 process; (2)

identifying historic properties; (3) assessing adverse effects; (4) resolving adverse effects, and (5) implementing stipulations in an agreement document.

Section 106 affords the ACHP and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect historic properties eligible for NRHP listing. State Historic Preservation Officers administer the national historic preservation program at the State level, review National Register of Historic Places nominations, maintain data on historic properties that have been identified but not yet nominated, and consult with federal agencies during Section 106 review. Section 101(d)(6)(A) of the NHPA allows properties of traditional religious and cultural importance to a Native American tribe to be determined eligible for NRHP inclusion.

Historic properties are defined as prehistoric and historic sites, buildings, structures, districts, and objects included in, or eligible for inclusion in the NRHP, as well as artifacts, records, and remains related to such properties (NHPA Section 301[5]). Under 36 CFR Section Part 800.3, Section 106 of the NHPA requires federal agencies to consult with the SHPO in a manner appropriate to the agency planning process for the undertaking and to the nature of the undertaking and its effects to historic properties. As part of the Section 106 process, agency officials apply the NRHP eligibility criterion to a potential historic property. Under 36 CFR Section Part 60.4, historic properties may be eligible for nomination to the NRHP if they "... possess integrity of location, design, setting, materials, workmanship, feeling and association..." and if they meet at least one of the following criteria:

- Are associated with events that have made a significant contribution to the broad patterns of our history.
- Are associated with the lives of persons significant in our past.
- 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.
- Have yielded, or may be likely to yield, information important in prehistory or history.

An undertaking is considered to have an adverse effect to a historic property if the undertaking may alter, directly or indirectly, characteristics of a historic property that may qualify the property for inclusion in the NRHP in a manner that would diminish its aspects of historic integrity (36 CFR Section Part 800.5).

Traditional Cultural Properties and Resources (TCPs), (National Register Bulletin 38)

Traditional Cultural Properties and Resources (TCPs) are places associated with the cultural practices or beliefs of a living community that are rooted in that community's history. These play an important role in maintaining the community's cultural identity.

Examples of TCPs for Native American communities include locations associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world or locations where Native American religious practitioners have historically gone and are known or thought to go today to perform ceremonial activities in accordance

with traditional cultural rules of practice. Examples of TCPs for the larger community include, but are not limited to:

- Any place where people practice a ritual activity or festival.
- Any place where something happened that is of significance to a group or community and is referred to in stories.
- Any place that is a vital and beloved part of the community and that may give the community a special identity or defining character.

National Environmental Policy Act (1969) [42 U.S.C. Section 4321 et seq.]

NEPA requires the consideration of potential environmental impacts, including potential impacts to cultural resources, in the evaluation of any proposed federal agency action. This includes consideration of unique characteristics of the geographic area, such as proximity to cultural resources and the degree to which the action may adversely affect buildings, structures, districts, sites, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP).

The NEPA regulations also require that to the fullest extent possible, agencies prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by the National Historic Preservation Act (NHPA), which under Section 106 requires federal agencies to consider the impacts of their actions on historic properties.

While NEPA does not provide specific guidance regarding paleontological resources, the requirements that the federal agencies take all practicable measures to "preserve important historic, cultural, and natural aspects of our national heritage" is interpreted to apply to paleontological materials. Paleontological resources are treated in a manner similar to that used for cultural resources, but are not subject to the regulations set forth in Section 106 of the NHPA.

Archaeological and Historical Preservation Act of 1974 [16 U.S.C. Sections 469 to 469(c)-2]

This act provides for the preservation of significant historic or archaeological data that may otherwise be irreparably lost or destroyed by construction of a project by a federal agency or under federally-licensed activity or program. This includes relics and specimens. This act also sets guidelines and standards for the recovery of data from cultural resources deemed important as a result of the resource's research potential as does this act include professional qualifications (OTA 1986: 162, 163).

American Indian Religious Freedom Act (1978)

Enacted in 1978 under Title 42 of the United States Code, Section 1996, this measure establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. Federal agencies issuing permits for projects would be required to comply with this Act if Native Americans identified issues regarding their right to exercise traditional religious practices.

Archaeological Resources Protection Act (1979)

Under Title 16 of the United States Code Section 470aa-470mm, this act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land.

Native American Graves Protection and Repatriation Act (1990)

Title 25, United States Code Section 3001, et seq. defines "cultural items", "sacred objects", and "objects of cultural patrimony"; establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for return of specified cultural items.

State Level

Public Resources Code Section 21083.2, California Environmental Quality Act (CEQA).

Under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 states that if the lead agency determines that the Project may have a significant effect on "unique" archaeological resources, an environmental impact report shall address these resources. A unique archaeological resource is an 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 the resource meets one of the following criteria:

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

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures.

Public Resources Code Section 21084.1, California Environmental Quality Act (CEQA).

This section sets forth that a project that may cause a significant adverse change in a significant historical resource is one that may be considered to have adverse effects on the environment. Historical resources not listed on the California Register of Historical Resources (CRHR) or other local lists may still be considered historical resources at the discretion of the lead agency on the Project.

CEQA Guidelines: Title 14 CCR Section 15126.4 "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects", sub-section (b) "Mitigation Measures Related to Impacts on Historical Resources".

Subsection (b) discusses impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource. Subsection (b) discusses documentation as a mitigation measure. Subsection (b) discusses mitigation through avoidance of damaging

effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

CEQA Guidelines: Title 14 CCR Section 15064.5.

State CEQA Guidelines define a "historical resource" to include:

- Resource(s) listed or eligible for listing on the California Register of Historical Resources (Title 14 CCR Section 15064.5(a)(1); (CRHR) resource(s) either listed in the NRHP or in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant," (Title 14 CCR Section 15064.5(a)(2)); resources identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code (Title 14 CCR Section 15065.5(a)(2)).

- Subdivision (g) provides that [a] resource identified as significant in a historical survey may be listed in the CRHR if the survey meets all of the following criteria:

    - The survey has been or will be included in the State Historic Resources Inventory.

    - The survey and the survey documentation were prepared in accordance with procedures and requirements [of the (California) Office of Historic Preservation.

    - The resource is evaluated and determined [by the Office of Historic Preservation] to have a significance rating of Category 1 to 5 on [the Department of Parks and Recreation Historic Resources Inventory Form].

    - If the survey is five years or more old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historic resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.

    - Resources identified by such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.

- A final category of "historical resources" may be determined at the discretion of the lead agency:

    - Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, education, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the

lead agency's determination is supported by substantial evidence in light of the whole record. (Title 14 CCR Section 15064.5(a)(3))

When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, the lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC). The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC (Title 14 CCR Section 15064.5(d)).

Section 15124(b) addresses mitigation, and states that the preferred mitigation for historical resources is treatment in a manner consistent with Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. The preferred mitigation for archaeological sites is preservation in place.

CEQA Guidelines: Title 14 CCR Section 15064.7 "Thresholds of Significance" and CEQA Appendix G Section V

This CEQA section encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term "cumulatively significant". CEQA Appendix G Section V is a checklist that identifies potential impacts to historical, cultural, or paleontological resources. The checklist includes four questions to determine if a potential Project would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
4. Disturb any human remains, including those interred outside of formal cemeteries?

Questions on the checklist are assessed if project impacts would be potentially significant, less than significant with mitigation, less than significant, or have no impact. The final determination of Project impacts are made by the lead agency on the Project.

Public Resources Code Section 5020.1

This section defines several terms, including the following:

- Historical resource. "Historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.
- Substantial adverse change. "Substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

Public Resources Code Section 5024.1

This section establishes the CRHR. A resource may be listed as a historical resource in the CRHR if it meets NRHP criteria or the following state criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage,
- Is associated with the lives of persons important in our past,
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values, or
- Has yielded, or may be likely to yield, information important in prehistory or history.

Public Resources Code, Section 5097.5

This section states that any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public land is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority or public corporation, or any agency thereof.

Public Resources Code Section 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains by the Coroner, is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the land owner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods.

Public Resources Code Sections 5097.99, 5097.991

These sections establish that it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. They also mandate that it is the policy of the State to repatriate Native American remains and associated grave goods.

Health and Safety Code Section 7050.5

This code establishes that any person who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of the law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American remains.

Health and Safety Code Sections 8010-8011

This code is intended to provide consistent state policy to ensure that all California Indian human remains and cultural materials are treated with dignity and respect. The code extends policy coverage to non-federally recognized tribes, as well as federally recognized groups.

California Penal Code Section 622.5

This code states that anyone who willfully damages an object or thing of archaeological or historic interest can be found guilty of a misdemeanor.

Local Level

Riverside County General Plan, Chapter 5 (Multipurpose Open Space Element), Open Space Policies 19.2-19.4

This portion of the General Plan outlines policies intended to promote the preservation of cultural resources in the County of Riverside. Policies within this chapter identify the need for a review of Project archaeological sensitivity, resource confidentiality, Native American consultation, and a report of findings.

Riverside County General Plan, Chapter 5 (Multipurpose Open Space Element), Open Space Policies 19.5-- 19.7

This portion of the General Plan outlines policies for the preservation of historic resources. Policies within this chapter identify the need for review of large development Project proposals by the History Division of the Riverside County Regional Park and Open-Space District with respect to the potential destruction or preservation of historical sites. The chapter also calls for promotion of built environment preservation through application of the Historic Building Code and authorization of tax credits for historic building and structure retrofitting.

Summary of Existing Preservation Plans

Preservation plans, in general, cover a wide variety of documents that pertain to varying scales of management. At the more generalized, broader level are the state HPMP documents that stand juxtaposed to the more specific, detailed project or resource-specific HPMP. As part of their obligations of office, the various SHPOs across the United States produce historic preservation management plans to offer guidance and streamlined goals pertaining to the cultural resources within their particular state and the management of impacts potentially affecting those resources. A series of state and resource-level HPMPs were researched and reviewed as references during the development of this document. Citations for many of these HPMPs are provided in the references section.

Summary of Successful Tribal Preservation Programs

In 1987, the Confederated Tribes of the Umatilla Indian Reservation in Pendleton, Oregon, recognized that Tribal cultural heritage was at risk and recognized the need for a more proactive Tribal approach towards cultural resource management (Stapp & Burney 2002). As a result, efforts were invested into the development of a cultural resources program. Other tribes have likewise taken it upon themselves to initiate or develop their own internal cultural resources management policies, protocols, and programs including the Navajo Nation with their Historic Preservation Department, Cultural Resource Compliance Section, the Hopi Cultural Preservation Office, the Apsáalooke Nation of Crow Indians, the Coeur d'Alene Tribe of northern Idaho, and the Yurok Tribe located in Klamath, California. Summary discussions of some of these previous tribal preservation programs and policies will follow, beginning with the Apsáalooke Nation of Crow Indians.

The Apsáalooke Nation of Crow Indians represents a collaborative membership of Native Americas residing within, or otherwise affiliated with, seven Indian Reservations located at various locations across Montana and Wyoming. In 2005, Crow Tribal Legislature passed *The Apsáalooke Tribal Cultural Resource Protection and Tribal Historic Preservation Office Act* (Bill Number CLB05-17) which recognizes the importance of cultural heritage to the Apsáalooke Nation, providing policy and provisions for the protection of traditional cultural resources through the establishment of a preservation program. With the passing of this bill, the Apsáalooke Tribal Historic Preservation Office was established, among whose responsibilities would be the maintenance of the Apsáalooke Register of Cultural Places, as well as the establishment of a Cultural Preservation Board.

The Coeur d'Alene Tribe of northern Idaho established and operates the Cultural Resource Management (CRM) Program to "preserve, protect, manage, and enhance the Coeur d'Alene Tribe's Cultural Resources" (Coeur d'Alene Tribe 2011). The Coeur d'Alene Lake Management and Natural Resource Department staffs this program and coordinates with the Culture Committee, the Tribal Council, and Tribal Elders. Through the efforts of this staff, Tribal consultation and participation in NHPA-applicable undertakings are facilitated, as do they provide professional cultural resource management services, which includes the facilitation of "Tribal consultation and participation in federal undertakings," archaeological research and monitoring, impacts scoping, mitigation recommendations, as well as the establishment and maintenance of an internal cultural resources information system (CRIS), among many others.

Cultural Context

This HPMP takes into consideration area specific to the Agua Caliente Band of Cahuilla Indians (ACBCI) Reservation land, including lands outside of the Reservation which are held in trust by, or for, the Tribe. Also the environs immediately surrounding the Reservation and trust lands, which includes much of the Coachella Valley and the eastern slopes of the San Jacinto and the Santa Rosa Mountains, are also taken into consideration for the purpose of this HPMP. The majority of the area of interest is located within the low-lying desert valleys of the Colorado Desert, occupying the northern Salton Trough geomorphic province and the mountainous canyons of the easternmost extent of the Peninsular Ranges (Hall 2007). The general area is characterized by gently sloping alluvial fans that emanate from the mountains to the west. Also present are characteristic and dramatic drainage systems containing gullies and washes originating in the 10,000+ foot peaks of the San Jacinto Mountains. Vegetation throughout the Coachella Valley includes a combination of native grasslands, shrublands, as well as some forests and woodlands varieties as well as some exotic, non-native species commonly found in developed or urban areas. Refer to Miles & Goudey (1998: Section 322C) and Rosiere (2009) for more detailed discussion about flora and fauna common to the Colorado Desert region.

Archaeological chronologies have been established by scholars in an attempt to better understand certain characteristics shared by a culture within a given time frame, by dividing the past into a series of periods. Although such divisions are not fixed, they provide a framework to organize the past and provide time placement for cultural constituents (Chartkoff et al. 1984). Aside from the disputed Pre-Paleoindian period, archaeological research in southern California over the past century has resulted in the development of a temporal scheme for regional prehistory that is generally accepted by the archaeological community (Moratto 1984). The temporal periods include the Paleoindian period, 12,000 to

7,000 B.P.; the Archaic period, beginning between 8,000 and 7,000 B.P.; and (transitioning to) the Late Prehistoric period at approximately 3,000 B.P. The LSA Existing Setting Report and other listed references provide a detailed discussion of these chronological units, including key cultural indicators and occupational patterns (LSA 2000; Moratto 1984; Sutton et al. 2007; among others).

Prehistory

The prevailing characteristics of the natural environment of the Colorado Desert have set notable constraints on how land could be used by native populations. Over the past roughly 12,000 years of human activity within the Colorado Desert, the region has witnessed significant environmental change. The overall trend of environmental change in the Colorado Desert has been one of fluctuation from generally cool and wet conditions to significantly warmer and drier conditions such as those that exist today. Those temperature and moisture variations have significantly affected the distribution and subsistence practices of prehistoric populations in the Colorado Desert. Additionally, changes in the course of the Colorado River resulted in periodic filling and desiccation of ancient Lake Cahuilla. This had a significant impact on resource availability, which in turn influenced population movement, settlement, and subsistence patterns within the region surrounding Palm Springs and the Coachella Valley.

The period of human culture in North American commonly referred to as Paleoindian spanned through the Late Pleistocene and Early Holocene dating approximately 10000 – 6000 cal. B.C. (Martinez *et al.* 2008), during which subsistence practices centered around the procurement of foods and materials based on plant and animal communities around many freshwater lakes (Moratto 1984). The tool kit for this period is characterized by a flaked stone industry typically defined by fluted points (Clovis and Folsom) and initially referred to as the Western Pluvial Lakes Tradition. These fluted projectile point types tend to be large and skillfully worked, possibly having been hafted to a spear and launched with an *atlatl*.

Evidence for human presence in the Colorado Desert in the Late Pleistocene and Early Holocene is scarce and currently most archaeologists identify the San Dieguito complex as the earliest use of the Colorado Desert during the Pleistocene–Holocene transition. First defined by Rogers (1939), San Dieguito materials are most common around now-dry inland lakes and on old desert terraces, though have also been found at Ventana Cave in southern Arizona and along the California coast (Rogers 1966; Warren 1966). The material culture associated with the San Dieguito complex consists entirely of flaked stone tools such as choppers, scrapers, blades, projectile points, and distinctive crescent-shaped items interpreted as amulets (Rogers 1939, 1966; Warren 1966). The lack of millingstone implements has long been viewed as evidence that San Dieguito peoples made little use of plant foods, particularly seed plants that require pounding and grinding. Lorann Pendelton (1984), though, observes that ethnographies of Colorado Desert peoples mention the use of wooden mortars and pestles for the processing of wild mesquite. If similar wooden milling implements were used by San Dieguito peoples, they have not survived in the archaeological record. Despite decades of scholarly research, dating the San Dieguito complex continues to be problematic (Love and Dahdul 2002; Schaefer 1994b).

The Archaic period in North American prehistory is characterized by the emergence of several distinctive regional adaptations to varying local conditions. In the western deserts, the Archaic spans the time from the end of cooler and wetter climatic conditions of the early Holocene, at around 5,000 B.C., to the introduction of pottery and bow-and-arrow technology, around

A.D. 500 (Antevs 1955; Grayson 1993; Van Devender and Spaulding 1979). Regional populations were generally expanding, leading to a diversification and intensification of subsistence activities, and regional trade and interaction networks were established. Ground stone tools, largely absent in the Paleoindian period, became widespread during the Archaic. In the southern California deserts, the best-known regional culture complexes of the Archaic period are the Gypsum, Pinto, Elko, and Amargosa, each defined by recognizably distinct projectile point types. For a more detailed discussion of these complexes, refer to Crabtree (1980), Rogers (1939, 1966), Schaefer (1994b), and Weide (1976). During the early Archaic, the Colorado Desert appears virtually abandoned on the basis of current data. This absence of Archaic occupation on the desert is a key regional research issue (Schaefer 1994b). Due to the scarcity of securely dated Archaic sites in the Colorado Desert, developments within the Archaic must be inferred from the development trajectories of adjacent areas.

Although few open-air sites date to the Archaic, rockshelter deposits at Indian Hill Rockshelter, in Anza-Borrego Desert State Park (McDonald 1992; Wilke et al. 1986), and at Tahquitz Canyon near Palm Springs (Schaefer 1994b) contain late Archaic components below more recent materials. These shelter sites lie south and west of the Agua Caliente Indian Reservation, containing distinctive dart-sized projectile points, ground stone implements, and rock-lined cache pits. The materials at the rockshelter sites and others outside of the Colorado Desert suggest that the Archaic period inhabitants of southern California were "diversified hunters and gatherers" who focused increasingly on processing and storing seed and nut foods, and who relied on "mobility" and social "flexibility of group size" to exploit the seasonally variable natural resources of their ranges (Schaefer 1994b).

The Patayan complex spans the Late Prehistoric and Protohistoric periods, and dates from approximately A.D. 500 until the American appearance into the area at the turn of the 19th century. The Protohistoric period encompasses a protracted 300-year period of sporadic European exploration and colonization during which aboriginal lifeways continued in the southern California deserts. There is a clear correspondence between the geographical distribution of archaeologically recognizable Patayan cultural materials and the historically documented territories of Yuman-speaking peoples. Nevertheless, Jerry Schaefer reminds us that non-Yuman groups, such as the Cahuilla and the Chemehuevi, were also active participants in this cultural complex (Schaefer 1994b). The Patayan complex is characterized by marked changes in the artifact assemblage, economic system, and settlement patterns of the region. Perhaps the most recognizable change from an archaeological perspective was the introduction of paddle-and-anvil pottery, either from Mexico or from the Ancestral Pueblo groups of the U.S. Southwest (Rogers 1945; Schaefer 2003; Schroeder 1975, 1979).

During this time, floodplain horticulture, featuring maize, beans, squash, and other crops, was similarly introduced from the south and east; the Colorado Desert lies on the prehistoric frontier of the westward expansion of agriculturally based subsistence systems. Bow-and-arrow technology was also introduced at this time, possibly from desert hunter-gatherer groups moving in from the west and north. Smaller, arrow-sized projectile point types of the Cottonwood Triangular and Desert Side-notched series are common. The Cottonwood series projectile points likely predate the Desert Side-notched types, and probably predate the introduction of pottery manufacture in the region. Concomitant with these dramatic subsistence and technology changes were several, apparently related, ceremonial and religious changes. During the Late period, burial practices shifted from inhumations to cremations and partial cremations. Artistic expression on rock (petroglyphs) and land (intaglios) flourishes at

this time in association with expanding trade and trail networks, and increasingly elaborate kinship systems tying together extensive territories (McGuire and Schiffer 1982). Warfare likely also increased at this time, and was well documented in the Protohistoric and Historical periods.

Recent research shows that around A.D. 1200, the Colorado River shifted course and refilled Lake Cahuilla (Schaefer and Laylander 2007). This refilled lake provided a stable year-round water supply in the Colorado Desert. People began to repopulate the Colorado Desert, some following the river on its route from the Colorado River Valley and some attracted from the Mojave Desert or the mountain ranges to the west (Moratto 1984; Weide 1976). Late period assemblages beginning circa A.D. 1250 are typified by the profusion of the Desert Side-notched and Cottonwood arrow points, which replace the larger projectile point traditions of earlier eras (Jones and Klar, 2007). These smaller points indicate the introduction of the bow and arrow and the replacement of the atlatl (Moratto 1984). These projectile point types are common throughout California during this period and into the historic period (Justice 2002). People began to occupy more permanent settlements and exploit different food sources at different times of the year because enough resources were present to provide year-round sustenance. Trade networks between coastal peoples and the occupants of the desert interior began to develop around A.D. 1000.

Around A.D. 1400, the course of the Colorado River shifted eastward, and as Lake Cahuilla gradually dried up, native peoples were confined to an ever decreasing fertile area (Moratto 1984). As the lake receded, surrounding areas experienced an increase in occupation as the population shifted to more abundant lands, such as the Colorado River Valley and mountains to the west of the Salton Trough (Weide 1976; Moratto 1984). People persevered in this desert environment, as evidenced in a series of stone-lined fish traps marking the progress of the receding waterline (Moratto 1984). As the aridity increased, the local inhabitants expanded their utilization of the resource base to include several hundred plants for food manufacture and medicine (Fagan 2003). Evidence of water control techniques, such as the use of wells and springs for irrigation and the construction of reservoirs and ditches, is apparent (Weide 1976).

Historic-Period

California's historic period is typically divided into three periods beginning with the arrival of Spanish explorers. The Spanish Period is characterized by the establishment of the first of many Spanish Missions to be founded along California's coastline, the first being in San Diego. It was during this period that livestock and agriculture were introduced. The Spanish Period ended with the secularization of the mission system in 1834, marking the onset of the Mexican Period. During the Mexican Period large land grants were given to individuals and the cattle industry blossomed in the region. Exploration of California first occurred in 1540 when a land expedition under the command of Hernando de Alarcon traversed inland along the Colorado River. Two years later, Juan Rodriquez Cabrillo was commissioned by the Spanish government to investigate the western shores of the newly acquired territory. In the following two centuries, little interest was given to California. However, by the late 18th Century, European political powers created renewed interest in the region. In 1769, the Gaspar de Portolá expedition crossed through the California region and established missions along the coast according to plan. The first recorded Cahuilla and European encounter occurred during the Juan Bautista de Anza expedition in 1775-1776, which crossed through the Borrego Valley and the San Jacinto Mountains en route from Tubac, Sonora to Mission San Gabriel. This expedition made contact

with the Cahuilla; however the impact of the Spanish was much less immediate and profound to the isolated desert and mountain Cahuilla groups as compared to those along the coast. By 1819, several mission outposts were established near the Cahuilla territory and the Cahuilla began to adopted Spanish practices and traits such as cattle ranching, agriculture, trade, language, and religion (URS 2010; Applied Earthworks, Inc. 2007; ASM Affiliates, Inc. 2009).

Following Mexico's independence from Spain in 1821, and prompted by the Act of Secularization of 1833, all of the former mission lands were granted to secular landowners (SCAG 2008). The newly privatized lands were used for extensive cattle grazing, which characterized the culture and economy of the Mexican Period. During the Mexican period Cahuilla worked on Mexican ranchos and became experienced vaqueros. In 1823-1825, an expedition led by Captain Romero and Lieutenant Pacheco crossed the Coachella Valley in search of a passable route to what is now Tucson, Arizona, which became a primary transportation corridor between Mission San Gabriel and Tucson through the Coachella Valley. The Romero expedition reported that the Cahuilla were familiar with the use of horses and cattle, and were engaged in agricultural practices. There are also accounts that the San Gabriel Mission had been obtaining salt from the Salton Basin by the Cahuilla for several years, and that the Spanish padres were visiting the desert Cahuilla at Agua Caliente around 1826. Cahuilla application of ditch irrigation methods for agricultural practices appeared in the Palm Springs area in approximately 1840 though this practice may well have been carried over from even earlier periods, as evidence of Cahuilla irrigation technology is evidenced at sites dating to between the "Late Archaic and Ethnohistoric Period," c. 2000 B.C.-A.D. 1870s (ASM Affiliates, Inc. 2009).

One government after another controlled California during the two-decade period between the 1830s until 1848. Meanwhile, the United States pushed west across the North American continent, and by 1846, numerous Americans had settled in California, often marrying into landed Hispanic families. During this time, prominent Cahuilla leaders such as Juan Antonio of the mountain Cahuilla and Chief Cabazon of the desert Cahuilla were recognized as representing entire tribal areas and functioned as intermediaries between the Cahuilla and the settlers (ASM Affiliates, Inc. 2009; Bogert 2003). Between 1835 and 1846 relations between Mexico and the United States deteriorated, beginning the Mexican-American War in 1846 (SCAG 2008). Juan Antonio of the mountain Cahuilla and his group played a significant role by siding with the Mexicans against the Luiseno, who supported the Americans (ASM Affiliates, Inc. 2009). The war ended in 1848 with the Treaty of Guadalupe Hidalgo and resulted in the annexation of California by the United States.

In the late 1840s miners began streaming into Cahuilla territory looking for gold. Conflicts between Cahuilla and settlers increased as Euro-American settlement increased in the early 1850s (URS 2010). Negotiations between the U.S. government and tribal leaders across California commenced in 1850 with the purpose of settling all land rights issues. These negotiations resulted in the drafting of 18 treaties, one of which covered the Cahuilla, Serrano, and Luiseño (ASM Affiliates, Inc. 2009). The Garra Revolt of 1851, which included the battle in Coyote Canyon on December 20, 1851, essentially marked the end of organized Indian resistance in the region. The Treaty of Temecula, signed by the Luiseño and Cahuilla chiefs on January 5, 1852, was intended to establish a huge Indian Reservation encompassing all of the San Jacinto and San Gorgonio Mountains, the desert country to the east, the Cahuilla Valley and mountains, as well as the hill country west almost to Temecula. Although the tribal leaders were promised supplies, food, and technical training in return for accepting the

specified reservation lands, white settlers vehemently protested the treaty and the treaty was never ratified by Congress (URS 2010).

Ethnography

At the time of European settlement, the region was occupied by Cahuilla Indians, a subgroup of the Takic family of Uto-Aztecan speakers (Bright and Hill, 1967). The Cahuilla were nonpolitical, spoke a common language and recognized to nonterritorial patrimonies, *tú'ktem* (Wildcats) and *'istam* (Coyotes) (Bean 1978; cf. Kroeber 1962). They were organized into clans composed of three to ten lineages that were dialectically different. Lineages cooperated in defense, large communal subsistence activities, and ritual performances (Bean 1978). Each lineage had a village site and a recognized subsistence territory, yet most of the clan territory was open to all Cahuillas. Hunting and gathering remained the dominant subsistence practice of the Cahuilla until European settlement of the region. However, the Cahuilla used proto-agricultural techniques to raise corn, beans and squash. Wild plants exploited by the Cahuilla include acorn, mesquite, Mohave yucca, pinion nuts, screwbean pods, and the fleshy bulbs of various cacti (Bean 1978). A variety of tubers, wild seeds, berries, fruits and succulent greens provided additional variety to the Cahuilla diet. Deer, rabbit, antelope, mountain sheep, doves, ducks, quail and roadrunner as well as reptiles and insects were hunted, skinned and cleaned by men (Bean 1978).

In 1781, the Quechan Indians of southern California and Arizona closed the land route to settlers, forcing Europeans to use sea routes to reach western California. Correspondingly, the Cahuilla had very little contact with Europeans until *asistencias* (extensions of nearby missions) were established in San Bernardino, Santa Ysabel, and Pala in 1819 (Beattie and Beattie, 1939). At that time, the Cahuilla began to adopt some Spanish cultural traditions—agriculture, cattle ranching, trade and wage labor; they also adopted Spanish clothing, language and religion (*ibid*). The Cahuilla territory was further reduced in the 1860s as the federal government ceded every odd-numbered section in the Coachella Valley to the Southern Pacific Railroad. By the mid-1800s, the Cahuilla populations were significantly reduced as a result of the 1863 smallpox epidemic and extended droughts. As Cahuilla populations decreased, village sites were abandoned and traditional lands were lost. Increase settlement in the area advanced the acculturation of the Cahuilla to new technologies, practices and material goods, which were incorporated into the traditional lifestyle of the Cahuilla. The Cahuilla began renting land or working for the white settlers as ranchers and farmers. Many Agua Caliente people were also hired by the Southern Pacific Railroad to build the pass in 1875 (Bogert 2003; URS 2010; ASM Affiliates, Inc. 2009).

Between 1876 and 1877 a reservation was established but the Cahuilla remained primarily on their own lands, practicing a combination of aboriginal subsistence techniques, trade and wage labor to make a living. After 1891, federal supervision became intensive and the Cahuilla's way of life was changed. They were trained in menial jobs, sent to government schools and their religious and political ceremonies were suppressed (Bean 1972). Still, the Cahuilla managed to maintain a diversified economy until federal land allotments became so small that agricultural development was difficult. From then until the 1930s, the Cahuilla survived by practicing subsistence farming, ranching, wage labor, Indian Service employment and assistance, and by leasing lands (Bean 1978). After World War II, government supervision lessoned and the Cahuilla were forced to become involved in "health, education, welfare, and economic development from local to federal levels" (Bean 1978: 584). In 1974, approximately

900 individuals claimed Cahuilla descent (most were enrolled in one of several reservations). Today occupational specializations among the Cahuilla range from cattle ranching and farming, civil-service, construction and teaching to independent businesses.

Agua Caliente Band of Cahuilla Indians, Reservation, and Tribal Lands

In 1876, President Grant set aside small reservations, which included the Agua Caliente Indian Reservation by Executive Order. The following year, another Executive Order by President Hayes set aside every even numbered section and certain other unsurveyed portions of townships for Indian reservations. The result was a checkerboard of tribal land, encompassing 48 sections, spread across the eastern edge of the Santa Rosa and San Jacinto Mountains and the Coachella Valley (Bogert 2003; ASM Affiliates, Inc. 2009). Physically, the Agua Caliente Indian Reservation represents "a checkerboard pattern on 51 of the 108 sections of land" totaling approximately 31,420 acres located within the Coachella Valley, Riverside County (CA); a combination of "Tribal trust land, allotted trust land, and fee land" are included amongst the landholdings of the Agua Caliente Indian Reservation and within these landholdings are found a scattering of public and private lands which come under various federal, state and local agencies (Helix Environmental 2010:1-1). Along with such landholdings, the acquisition of presently off-Reservation land is an on-going process and several "Target Acquisition Areas" have been identified by the Tribe, as shown in the Tribal Habitat Conservation Plan (Helix Environmental 2010: 1-6, Figure 1 and Figure 2). Likewise, an active process of exchange exists between the Bureau of Land Management (BLM) and the Tribe, the result of which may include the acquisition or exchange of specified lands, referred to as exchange lands, between or to either party (Helix Environmental 2010: 1-6).

Identification of Historic Properties

Cultural Resources are here defined to be any property or site that is important to the history of the Agua Caliente Band of Cahuilla Indians, including historic properties as defined by the NHPA, Traditional Cultural Properties (TCPs), as well as other resources of cultural importance to the Tribe (*i.e.* Tribal elders as sources of traditional Tribal Knowledge, languages, cultural traditions, or cultural sites; including native wildlife, plants and environments (landmarks) important for traditional or ceremonial use). The identification of historic properties is an essential step in the preservation process and is extremely important for thorough cultural resources management.

General to cultural resources management, though particular to NHPA and the Section 106 process, once a project has been initiated the next step within the process is the identification of extant cultural resources or "historic properties" so as to ultimately determine potential effects to these properties. As T. King states "[i]dentification needs to be done *only to the extent necessary to address effects*; addressing effects is what section 106 is all about" (2008: 123). During the discovery phase of the preservation process includes the identification of historic properties through archival investigation, collaboration and consultation, and field survey (OTA 1986: 16).

To follow is a general summary of historic properties that are within, or potentially within, the Agua Caliente Reservation and TUA as determined by archival investigation, collaboration, and the review of the GIS Register maintained by the Agua Caliente THPO, as well as the review of previous archaeological, historical, and other academic publications discussing Colorado Desert regional history or archaeology. It is recommended that the Agua Caliente

Cahuilla Traditional Use Area

N
W E
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Miles

Legend

- Cities
- Interstates
- State Highways
- Streams
- Ancient Lake Cahuilla
- Water Bodies
- Cahuilla Traditional Use Area
- County Boundaries
- Reservations

Agua Caliente Band of Cahuilla Indians
Planning & Development Department
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Geospatial Information Services
(760) 883-1911/Fax (760) 883-1937

THPO be contacted early on so as to include the review of their GIS Register, Tribal knowledge, and other records or documents pertaining to cultural resources be included in the discovery process.

Historic Properties and Cultural Resource Types Known within, or Potentially within, the Agua Caliente Reservation and TUA

In the following section, a brief discussion is provided to introduce the reader to possible historic properties, cultural resources and built-environment site types that are known to be, or are potentially within, the ACBCI Reservation and TUA. Included in this discussion are recorded National Register properties, TCPs, archaeological and built-environment sites and property types.

National Register Properties and Traditional Cultural Properties within the Agua Caliente Reservation

At the time of writing for this HPMP, two National Register listed properties are known within the Agua Caliente Reservation and TUA: Tahquitz Canyon and Andreas Canyon. **Table 2** lists known historic properties or TCPs located within the Agua Caliente Reservation. Two National Register sites known and documented within the Agua Caliente Indian Reservation: Tahquitz Canyon and Andreas Canyon are also TCPs. As defined in Bulletin 38 of the National Register of Historic Places, *Guidelines for Evaluating and Documenting Traditional Cultural Properties* (Parker and King 1998), TCPs are resources associated with traditional cultural practices or beliefs of a living community. A TCP must be rooted in a community's history and be important in maintaining the continuing cultural identity of that community for at least the last 50 years.

Tahquitz Canyon National Register District represents a district that has been listed on the National Register due to its prolific collection of archaeological sites and its connection to the Agua Caliente Band of Cahuilla Indians and their place of origin (King 2003: 24). In addition it is listed as a TCP. Tahquitz is comprised of a Late Prehistoric to Ethnohistoric period residential base with ten large open air residential areas, four rockshelters, six specialized activity areas and a minimum of four creation areas, four rock art areas, and Ethnohistoric irrigation ditch systems. Tahquitz Canyon is also known as the ancestral home of the Kauisiktum lineage of the Cahuilla who displaced a previous group inhabiting Palm Springs. Oral tradition recounts the legend of Tahquitz describes Tahquitz as the first shaman who was both good and evil. Created by Mukat, the creator of all things, Tahquitz began to use his powers to harm the people. The Cahuilla banished Tahquitz to his canyon and is believed to reside in a secret cave at Tahquitz Peak.

Andreas Canyon National Register District is located in the Indian Canyons Park, on the Agua Caliente Indian Reservation. Andreas Canyon consists of 37 contributing prehistoric and historic sites and geographic features including Rincon Village and environs, Andreas Canyon, Murray Canyon, and North Palm Canyon, which span human occupation of at least 1000 years. Many sites date from the Late Prehistoric Period into the Ethnohistoric period when the Paniktum adopted new technologies and cultural practices after contact with the Spanish, Mexican and Euro-American settlements. Historically the Paniktum lineage occupied the canyon as their permanent residential base and ceremonial center and spans the periods of cultural change from prehistory, the implementation of the reservation system and the early modern period as

the City of Palm Springs developed in and around the reservation. Andreas Canyon was nominated to the National Register in 1972 and later validated as a register property. The THPO was awarded a NPS grant to update the Andreas Canyon National Register District in 2008. The update includes expansion of the original record of eight pages which reported three contributing sites to 37 sites and 64 pages.

Table 2 – General List of National Register and Traditional Cultural Properties within the Agua Caliente Reservation

Site Type	General Description
Tahquitz Canyon	Important population centers during the Late Prehistoric period (Bean et al. 1995). Located in the Indian Canyons Park, on the Agua Caliente Indian Reservation. Tahquitz is comprised of a Late Prehistoric to Ethnohistoric period residential base with ten large open air residential areas, four rockshelters, six specialized activity areas and a minimum of four creation areas, four rock art areas, and Ethnohistoric irrigation ditch systems.
Andreas Canyon	Important population centers during the Late Prehistoric period (Bean et al. 1995). Andreas Canyon consists of 37 contributing prehistoric and historic sites and geographic features including Rincon Village and environs, Andreas Canyon, Murray Canyon, and North Palm Canyon, which span human occupation of at least 1000 years.

Prehistoric Archaeological and Ethnographic Site Types

Prehistoric archaeological and ethnographic site types likely to be present within the Agua Caliente Indian Reservation and the surrounding TUA represent a diverse, and by no means comprehensive, list. Table 3 provides a partial list of site types that are known, recorded, or otherwise potentially found within the Reservation itself and the TUA. Central to this partial list is the presently on-going investigative effort for the Chuckwalla Valley Prehistoric Trails Network Cultural Landscape (PTNCL) by D. Laylander and J. Schaefer (2010). This reference served as a primary source for the definition of prehistoric and ethnographic site types, as found in the below table. Future research and continued collaboration between the archaeological, ethnographic, and Tribal communities may result in the identification of additional site types.

Table 3 – General List of Prehistoric and Ethnographic Site Types Potentially within the Agua Caliente Reservation and TUA

Site Type	General Description
Isolated Finds	Groups of three or fewer prehistoric or historic (non-refitting) artifacts within a specified distance of each other or the presence of a single artifact from a given period.
Village Sites\Habitation Bases	These sites represent locations where habitation bases represent settlements "where a community or a family lived for a period that was measured, at a minimum, in weeks rather than days" (Laylander and Schaefer 2010). These sites should likewise represent "locations of consumption, as much as or more than locations of production" and expected archaeological artifacts and features associated with this site type would

Site Type	General Description
	include, at a minimum, a noticeably high quantity and diversity of material remains including constructed structures such has house pits, rock rings, or "sleeping circles", occupied rock shelters, and hearths, as well as rock art, faunal and or floral remains or access to such sources, and a variety of artifacts including lithics and ceramics. Boulé noted that Cahuilla villages were commonly located in the canyons near existing water sources, if those sources were available (Boulé 1992: 29). L. Bean notes that a major factor for the selection of desert village sites by the Cahuilla is associated with the location of man-made "lakelets" or water features by "banking the s and around" deep walk-in wells that were excavated into the sandy desert floor (1974: 32; see Prehistoric Water Features site type in this table)
Seasonal Camps\Travel Camps	Temporary sites, more so than the above sites, tend to be absent of features or resource processing. These site types could include cleared circles and hearths, but show no constituents that would be evidence of activities such as foraging, because sustenance resources would not be naturally present at the site location requiring the settlers to bring such with them, to the site location. These site types tend to occur near travel routes and water sources. Also, constructed features commonly associated with habitation activities should not be present or should only minimally be present, aside from possible sleeping circles or hearths.
Simple Cobble Quarry Sites	Prehistoric site types representing locations where concentrations or deposits of quality raw lithic material naturally occur, such as on surficial cobble terraces or exposed geologic deposits. Prehistoric populations would habitually visit these quarry locations for the acquisition, testing, and preliminary fashioning of lithic raw materials for the manufacture of preforms or tools. Attributes for this site type include flaked and/or battered stone artifacts indicative of lithic reduction activities, including lithic debitage, cores (including early-stage bifacial cores), tested (or assayed) cobbles, and hammerstones, with no other artifact types present.
Complex Cobble Quarry Sites	This site type represents locations where concentrations or deposits of quality raw lithic material naturally occur, such as on surficial cobble terraces or exposed geologic deposits, where prehistoric populations would habitually visit for the acquisition, testing, and preliminary fashioning of lithic raw materials for the manufacture of preforms or tools. Attributes of this site type may contain the same artifact types defined above for simple cobble quarry sites, but also contain formed flaked stone tools clearly indicative of a wider range of activities beyond lithic extraction. Those tools may include projectile points or other late-stage bifacial tools, patterned or unpatterned flake tools, and edge-modified flakes.
Extraction Camps	Sites that are more temporary in nature and may have been used for annual or logistical "collector" purposes. These sites typically do not have non-local materials, and for non-lithic extraction sites would consist mostly of late stage bifacial lithic reduction and tool maintenance.
Biotic Resource/Processing Site	These site types show evidence of exploitation of floral and/or faunal resources and may include the following features: hunting blinds, drive fences, observation points (with toolstone manufacture/maintenance); milling stations; and roasting pits; and also include artifacts such as lithic scatters

Site Type	General Description
	(not associated with habitation sites).
Ceremonial/Religious Sites	Such sites may also be considered as TUA or TCP site types and may include includes rock art, geoglyphs, cairns, rock clusters, trail shrines, cremations, rock circles, cleared circles, and/or trail side ceramic breaks.
Rock Art Sites	Prehistoric rock art sites consist of artistic motifs that are etched into (petroglyph) or painted atop (pictograph) weathered surfaces of natural stone outcrops and boulders. Rock art sites can range from the isolated occurrence of a single motif to a single panel consisting of multiple motifs that have been etched or painted onto stone outcrops and boulders, to more complex multi-paneled arrangements with a multitude of motifs that collectively cover several outcroppings, boulders, or escarpments.
Trails/Trail Networks	Trail or trail network site types/features consist of a single footpath, or series of paths, that appear tamped or pushed (constructed) into the surrounding soils as a result of human activity or travel. These paths typically range in size from 30-40 centimeters wide and discoloration of the path may result from repeated compaction of rocky or pavement surfaces; such discoloration may also be the only indicator of a trail's presence. These features are most apparent on desert pavement surfaces or other stable landforms. Often, particularly on desert pavement surfaces, the larger rocks have been cleared from the path of the trail. These site types may or may not be associated with other archaeological remains. Rock cluster features such as cairns or rock piles (also referred to as trail shrines) maybe observed in association with trails. This site type is further categorized in the PTNCL to differentiate trails specifically used for the *exploration of remote resources* vs. trails representing a *relationship of hostility or amity* and those used for *travel for personal or spiritual reasons*.
Rock Cairns/Trail Shrines	These are features that may occur as isolated finds or can be associated with prehistoric or historic-period archaeological sites. These features consist of constructed rock concentrations that stand above the surrounding ground surface. Such features can consist of a single course of rocks, or rocks stacked higher than one course. These features may represent prehistoric activity, or they may be associated with mining claims and homesteading land claims. Similar rock clusters are also commonly used by off-highway vehicle (OHV) users to demarcate OHV tracks, trails, and racecourses.
Geoglyphs/Intaglios	Prehistoric geoglyph or intaglio sites consists of a design, pattern, and/or shape purposely created on the surface by humans through the action of clearing naturally occurring surficial rocks to expose the ground surface, often identified in areas of stabilized desert pavement. These particular site types are more common to the deserts east of the Coachella Valley, near to the Colorado River and may, or may not be, associated with other archaeological features and/or artifacts.
Ceramic Pot Drops/Scatters	Such site types contain objects made of clay which were fired and hardened to form utilitarian vessels or objects for use by prehistoric cultures. These objects are usually found as fragments within archaeological sites or as

Site Type	General Description
	isolated concentrations of ceramics that were broken in a single location in which all pieces refit, which are also referred to as "pot drops."
Thermal Features/Hearths	Prehistoric site types with attributes typically consisting of loose scatters or discrete concentrations of rocks that have been affected by intense heat and display signs of cracking or pot lid fractures, charring, and-or possible fire/smoke blackening. Such thermal features may also be referred to as "roasting pits."
Ground stone Manufacturing/Quarry Sites	This site type represents locations where concentrations or a deposit of naturally occurring, quality raw lithic material (such as on or near rock outcrops of raw material) that is suitable for use as groundstone. Prehistoric populations would habitually visit these quarry locations and gather and/or collect lithic raw material for the acquisition, testing, and preliminary fashioning of ground stone preforms or tools. Attributes of groundstone site types includes early-stage manufacture of milling-related artifacts, including hand stones (or Manos), pestles, milling slabs (or metates), respectively.
Cremation/Inhumation Sites	Prehistoric site type consisting of articulated or disarticulated human skeletal remains, individual grave features, or a collection of grave features. Prehistoric human remains property types may also occur in the form of a cremation or concentration(s) of burned human bone fragments (also known as cremains) and may be associated with burned and unburned ceramics, debitage, flaked stone tools, groundstone, and/or other unique artifacts.
Prehistoric Water Features	This site type is typified by the presence of various constructed features specifically used to control or gain access to fresh water sources. Ethnographic studies have documented the presence of many subterranean wells or pits excavated into the sandy desert floor, some of which have terraced sides so that a person could walk down and collect the water (Bean 1972: 46; Bean *et al*, 1978: 26, *cf.* Barrows 1900: 26-27). L. Bean describes the custom of the creation of "small lakelets by banking the sand around" deep subterranean wells at locations where the water table was "ten to thirty feet below the surface" (1974: 32). Other water features include constructed reservoirs, dams, and canal irrigation systems such as those documented at Agua Dulce (Wilke 1975: 28-29).

Historic-Period Archaeological Site Types

Site types included within this category consist of archaeological remnants related to the Historic-Period events associated with European discovery and settlement, later Mexican and American settlement and expansion, and in particular the regional development of the Palm Springs and Coachella Valleys during the American and early Modern Periods. Generally, Historic-Period archaeological site types represent the scattered and ruinous remains of features, deposits, or other artifacts that can be associated with human activities during the Historic-Period. The following table provides a generalized list of historic-period archaeological site types within or potentially within the Agua Caliente Reservation and TUA.

Table 4 – General List of Historic-Period Archaeological Site Types within or potentially within the Agua Caliente Reservation and TUA

Site Type	General Description
Agricultural, Farmsteads or Homestead Sites	These can be architectural property or historic-period archaeological site types consisting of any building or structure (or remnants thereof) older than 45 years of age and associated with early settlement, farming, agriculture, or homesteading activities in the Coachella Valley or broader Colorado Desert Region. For the present discussion, emphasis is given to historic-period archaeological site types that can be associated with farmsteads or homesteads. Technical definitions for architectural property types are based on those provided by the U. S. Department of the Interior, National Park Service in their publication titled How to Apply the National Register Criteria for Evaluation (NPS 1991).
Structural Remains\Ruins	This archaeological site type consist of structural debris, dilapidated fence lines or corrals, roads, and other structural or building features that may or may not be associated with deposits and/or sparse distributions of domestic, commercial, construction, or industrial debris (e.g., cans, bottles, ceramic tableware, milled lumber, machinery, and appliances) that are older than 45 years of age.
Refuse Deposits	This archaeological site type consist of a deposit and/or sparse distribution of domestic, commercial, construction, or industrial debris (e.g., cans, bottles, ceramic tableware, milled lumber, machinery, and appliances) that are older than 45 years of age. Historical refuse deposits or scatters can be found in isolation, as a by-product of historic-period architecture or occupation.
Mining Sites	These sites may strictly be archaeological sites or may include a combination of archaeological artifacts and features as well as historic-period properties. These properties may potentially include (though not limited to) borrow pits; shafts; adits/prospects or other surface mining features; access roads; mining-related equipment and other mining-related artifacts; mining-related structural ruins; and raked and scraped surfaces resulting from gravel mining that are older than 45 years of age.
Transportation Sites	These linear features can be archaeological sites or historic-period properties that are older than 45 years in age, possibly including roadways, bridges, railroads, canals/irrigation systems, and transmission lines. These sites may or may not be associated with other historical resources.
Infrastructure Sites	Other linear features can be archaeological or historic-period properties that are older than 45 years in age and can be attributed to the development of infrastructure in the desert region, such as the production or transportation of energy and other natural resources by way of transmission lines, pipelines, etc. These sites may or may not be associated with other historical resources.
Human Burials\Cemeteries	This site type represents the location of both documented and undocumented human burials dating to the historic-period that are individually interred or collectively interred within communal or family cemeteries.

Built-Environment (Architectural History) Property Types

Built-environment (architectural history) property types represent any buildings or structures that are older than 45 years in age or are associable with significant individuals or events in history, or embody the distinctive characteristics of a type, period or method of construction or represent the work of a master, particularly with regards to the history of the region or of the state. As has been briefly introduced in the cultural context section of this research design, the Palm Spring and Coachella Valley together host a richly diverse collection of built-environment properties, many of which are associated with, to a lesser degree, the influx of entrepreneurial settlers of the American Period and more prominently, the boom experienced as a result of the later influx of tourism, the spa industry, Hollywood and other wealth-based influences during the Modern/Reservation Period. Several distinct architectural styles are common to the Palm Springs and Coachella Valley and collectively contribute to the overall character of the desert built environment.

Specific distinct styles and built environment property types known to the region and potentially found within the Agua Caliente Indian Reservation and its TUA include Spanish and Mediterranean Style residential architecture, native rock or adobe residences, Modern Style residential architecture, commercial or industrial architectural buildings and structures, as well as structures or buildings associated with early tourism or resort development in the region.

Table 5 – Representative Sample of Built Environment Site Types within the Palm Springs Area

Site Type	General Description
Residential Buildings in the Spanish and Mediterranean Revival (Spanish Colonial Revival) Architecture Style	Predominantly associated with the 1920s and 1930s, this era of architecture in Palm Springs represents modest and grand residences commonly located in older residential neighborhoods such as Old Las Palmas, the Movie Colony, Little Tuscany, and the Tennis Club quarter (Architectural Resources Group 2004) the design of which was inspired by a revived interest in Spanish Colonial architecture with its thick adobe walls, tiled roofs, and courtyards. Among the materials used for these buildings include native rock or adobe.
Residential Buildings in the Modern Architecture Style	Common in the area during the "postwar era" from 1940s to 1960s, these residential buildings emphasized "geometric forms and textures, strong linear qualities, spare ornamentation, outdoor living, and [were] usually of a single story" (Architectural Resources Group 2004). Some of the famous architects Modernist-style homes active in the Palm Springs area include Jack Meiselman, George and Robert Alexander, as well as Albert Frey, John Porter Clark, William F. Cody, E. Stewart Williams, Donald Wexler, Craig Ellwood, and Ric Harrison (among others), many of whom were based in Palm Springs (Architectural Resources Group 2004).
Commercial and Industrial Buildings and Structures	Of differing styles, though mostly Spanish Colonial Revival and Modern, these commercial or industrial buildings and structures were built as restaurants, inns, gas stations, churches, schools, libraries, and other facilities to support the area's population. The Palm Springs City Hall building, designed by the prominent architect Albert Frey, is one example.
Early Tourism or Resort Development-related Commercial Buildings and Structures	These commercial buildings and structures associated with tourism and resort development were constructed mostly in the Spanish Colonial Revival and

	Modern styles, and were built to accommodate the large numbers of wealthy tourists who visited the area from the 1920s to the 1960s. The various tourism and resort-related property types include hotels and resorts, restaurants, gas stations, and other facilities. The Movie Colony Hotel and the Aerial-Tram Station, both designed by architect Albert Frey are two examples.

Traditional Use Areas

Traditional Use Areas broadly represent specific natural, ceremonial, or functional areas where access to native plant, lithic, or other natural resource material is possible. The broader Agua Caliente TUA contains localized, functional areas and areas of importance to the present-day Agua Caliente Tribal community. Examples of these include plant gathering localities, localities where present-day Tribal ceremonies or gatherings occur, geographical locales or place names that are mentioned in - or are otherwise central - to Tribal oral histories, as well as areas where native animals are known to frequent. Many terrestrial resources such as wildlife and native habitats that are important to Tribal gathering practices and traditions may be considered culturally important. Other resources may as well include Tribal language, cultural practices and rituals, as well as geographic or geomorphic formations that are connected to Tribal oral traditions. Undeveloped natural environments maybe culturally important as they may provide source locations for the collection of medicinal plants or otherwise mark the location of "prehistoric and historical use sites, and other land areas where Tribal members currently practice cultural traditions" (CSKT 1994a: 17-2).

Within the Agua Caliente TUA, specific areas exist where important Tribal cultural traditions and ceremonies occur. Such ceremonial and religious sites may likewise be considered prehistoric or ethnographic site types and may consist of rock art, geoglyphs, cairns, rock clusters, trail shrines, cremations, rock circles, cleared circles, and/or trail side ceramic breaks. Other traditional use areas may represent locations where specific traditional subsistence practices have occurred and continue to occur through the modern Tribal practices and traditions. Included amongst these are agave roasting sites including roasting pits, *Kupcachem* or Barrel Cactus collection and processing sites, *Amul* or Agave collecting areas, as well as collection areas associated with *Menyekish* (Mesquite Beans), *Quinyil* (Black Acorn), *Tevatem* (Pinyon Pine Nuts), and salt gathering sites. For a comprehensive listing of important place names within the Agua Caliente TUA, see Appendix A.

Criteria for Resource Significance

FEDERAL LEVEL

Historic properties are defined as prehistoric and historic sites, buildings, structures, districts, and objects included in, or eligible for inclusion in the NRHP, as well as artifacts, records, and remains related to such properties (NHPA Section 301[5]). Under 36 CFR Section 800.3, Section 106 of the NHPA requires federal agencies to consult with the Tribal Historic Preservation Officer (THPO) or the State Historic Preservation Officer (SHPO) in a manner appropriate to the agency planning process for the undertaking and to the nature of the undertaking and its effects to historic properties. As part of the Section 106 process, agency officials apply the NRHP eligibility criterion to a potential historic property. Under 36 CFR Section 60.4, historic properties may be eligible for nomination to the NRHP if they "... possess

integrity of location, design, setting, materials, workmanship, feeling and association…" and if they meet at least one of the following criteria:

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or

B. Associated with the lives of persons significant in our past; or

C. 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

D. Have yielded, or may be likely to yield, information important in prehistory or history.

These resources can be significant at either the state or national level. An undertaking is considered to have an adverse effect to a historic property if the undertaking may alter, directly or indirectly, characteristics of a historic property that may qualify the property for inclusion in the NRHP in a manner that would diminish its aspects of historic integrity (36 CFR Section 800.5).

STATE LEVEL

If a project is not considered to be a federal undertaking, compliance with CEQA will be required. In considering impacts under CEQA, the significance of each resource must first be determined. At the State level, consideration of significance as an "important archaeological resource" is measured by cultural resource provisions considered under CEQA Sections 15064.5 and 15126.4, and the draft criteria regarding resource eligibility to the CRHR. Generally, under CEQA a historical resource (these include the historic built environment and historic and prehistoric archaeological resources) is considered significant if it meets the criteria for listing on the CRHR. These criteria are set forth in Section 15064.5, and defined as any resource that:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. is associated with lives of persons important in our past;

3. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. has yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5 of CEQA also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed under PRC 5097.98. Impacts to "unique archaeological resources" are also considered under CEQA, as described under PRC 21083.2. A unique archaeological resource implies 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 one of the following criteria:

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

A non-unique archaeological resource indicates an archaeological artifact, object, or site that does not meet the above criteria. Impacts to non-unique archaeological resources and resources which do not qualify for listing on the CRHR receive no further consideration under CEQA.

In many cases, determination of a resource's eligibility to the NRHP or CRHR can be made only through extensive research. Where possible, and to the maximum extent feasible, impacts to resources should be avoided. If it is impossible to avoid cultural resources, formal eligibility evaluation must be undertaken. If the resource meets the criteria of eligibility to the NRHP, it will be formally addressed under Section 106 of the NHPA. If the resource meets the criteria of eligibility to the CRHR, it will be formally addressed under Sections 15064.5 and 15126.4 of CEQA. Under CEQA, a project potentially would have significant impacts if it would cause substantial adverse changes in the significance of an historical resource (*i.e.,* a cultural resource eligible to CRHR, or archaeological resource defined as a unique archaeological resource which does not meet CRHR criteria), or would disturb human remains.

Management Issues

In this section is the discussion of pertinent management issues presently identified with regards to cultural resources within the ACBCI Reservation and broader TUA.

Issue 1. Cultural Continuity

The Agua Caliente people have a long and proud history. The Tribe is committed to preserving its heritage: ancestral habitation sites, rock art, oral history, Bird Songs, and basketry. The Tribe wants to leave the proud legacy of its ancestors for the future. Thus, it is crucial that the Historic Preservation Office involve members of the Tribe in its overall operation, and activities.

Historic Preservation Advisory Board (HPAB)

"The mission of the Historic Preservation Advisory Board is to advise the Tribal Historic Preservation Office (THPO) and the Tribal Council on all matters related to historic preservation, to encourage public interest and training in historic preservation, and to assist the THPO to coordinate and communicate with other Tribal entities and programs, as well as with local and state historic preservation entities."

The THPO must include traditional cultural authorities in its planning process. A Tribal Historic Preservation Advisory Board acts in an advisory role for the THPO. The duties of the Board/Committee are:

a. To advise the THPO and the Tribal Council on matters related to historic preservation, including the Historic Preservation Management Plan;
b. To review and make recommendations regarding the tribe's historic preservation policies and programs, including National Register Nominations, Section 106 actions, and SB 18 consultations.
c. To encourage public interest and training in historic preservation and educate the Tribal membership, tribal government, and the general public regarding the Advisory Board's activities; and
d. To assist the Tribal Historic Preservation Officer to coordinate and communicate with other tribal entities and programs, as well as with local and state historic preservation entities.

Goal: Ensure that tribal members have a voice in efforts to protect the tribe's cultural heritage for future generations.

Objective:

- Continue working with the Historic Preservation Advisory Board.

Repatriation (NAGPRA)

Native American Graves Protection and Repatriation Act (NAGPRA) is a federal law for the repatriation of human remains, funerary items, sacred objects and items of cultural patrimony to lineal descendants, and culturally affiliated Indian tribes. NAGPRA also covers procedures for unclaimed and culturally unidentifiable Native American human remains and cultural items, intentional and inadvertent discovery of cultural items and human remains on Federal and tribal lands, and penalties for non-compliance and illegal trafficking. All Feral agencies along with public and private museums which receive federal funding are subject to NAGRA.

- Federal agencies and museums must prepare inventories and summaries of their holdings
- Federal agencies and museums must consult with tribes, lineal descendants and Native Hawaiian organizations in regards to the identification and cultural affiliation of items listed on inventories and summaries
- Federal agencies and museums must send notices to tribes, lineal descendants and Native Hawaiian organizations describing their holdings and stating items available for repatriation. The notices are published in the Federal Register.

In 2009 the THPO assumed NAGPRA responsibilities from the Agua Caliente Cultural Museum (ACCM), a non-profit agency, which was formerly the designated representative on behalf of the Tribe.

Any ancestral Tribal human remains repatriated under this act fall under the purview of the Tribal Council, per Ordinance 37.

Goal: Continue to work towards the repatriation of human remains, funerary items, sacred objects and items of cultural patrimony.

Objective:

- Work with the Cahuilla Inter-Tribal Repatriation Committee member tribes on repatriation activities.

Issue 2. Cultural Landscapes and Traditional Use Area (TCPs)

Traditional cultural properties (TCPs) often involve large land areas, and determining acceptable boundaries often poses substantial conflicts. Land managers and governmental agencies may want to focus on more limited areas for recognition and protection based on practical planning needs. Native people may not agree with imposing "practical" limits or bureaucratic frameworks, such as the National Register criteria, on concepts they regard as transcending human legalisms. And while traditional cultural properties have been considered in federal undertakings since the early 1990s, with the passage of SB 18 in 2004, local governments in California are now required to consult with Native Americans regarding important tribal places and to integrate that information into land use planning.

Goal: Ensure that cultural resources are considered at appropriate scales, both in terms of the physical land base and also in terms of the wider cultural system of which they are a part.

Objectives:

- Work with knowledgeable tribal and non-tribal elders to identify named places that are culturally significant (TCPs) Review boundaries of currently recognized "traditional use area" (TUA) Conduct research and evaluate known place names for possible nomination as TCP's

- Ensure THPO professional staff receive training on landscape identification, evaluation and treatment

Issue 3. Land Use Planning

Land use planning statutes and regulations provide some protection to cultural resources on Tribal lands and in the TUA for projects that include federal involvement, and, to a lesser degree, for state and local projects. Land use planning that employs the deliberative mechanisms of the National Environmental Policy Act (NEPA), NHPA, and CEQA regulatory processes ideally results in the consideration of the effects of individual projects on historically significant resources.

During the 20th century, Riverside County experienced tremendous population growth; in the past 50 years, the population grew from 170 thousand to 1.5 million. In the next 5 years, the county's population grew to an estimated 1.9 million, and there is every indication that this rate of growth will continue. Therefore, the potentially adverse effects on the Tribe's cultural resources will be ongoing.

Land Status

Land Status will affect how we address preservation issues. The Agua Caliente Indian Reservation is a 'checkerboard'-it is made up of trust lands, allotments, fee (either held by tribal members, the tribe, or non-Tribal entities). It also has multiple jurisdictions and these two factors must be acknowledged and addressed in the preservation of the Tribe's resources

Goal: To ensure that the myriad of land status are considered and respected in the protection of cultural resources on and off the Reservation.

Objective:

- Build a cooperative relationships with the cities in the Coachella Valley, federal agencies, private individuals and businesses
- Work closely with the Tribe's Planning Department
- Educate neighboring cities, agencies and municipalities on historic preservation and on the importance to consider effects to historic resources into the planning process.

Section 106/CEQA/SB 18 consultation w/governments and other tribes

The Tribe is mandated by our THPO agreement to consult with federal agencies, local governments, and other tribes for Section 106 actions. The tribe is also consulted with by various agencies for Section 106, CEQA, and SB 18 compliance.

Goal: Ensure that the Tribe's historic preservation concerns are considered at an early stage in the planning process of all projects that could potential impact cultural resources.

Objectives:

- Develop project review system of tribal and non-tribal projects subject to Section 106/CEQA/SB 18 consultation
- Develop specific plans for specific land status/undertakings not covered by standard consultation process

Issue 4. Information Management

The foundation for cultural resource preservation on Agua Caliente tribal land and within the traditional use area is the inventory of the places that contain the material remnants of ancient and historical events. Ancient rock art panels, prehistoric village sites, trails, and resource collection locations are just a few examples of such places. A major project for the THPO is the Cultural Register and the creation of a Geographic Information Systems (GIS) Cultural database for managing cultural resource information.

Information regarding Cultural resources is submitted by various sources to the 12 California Historical Resources Information System (CHRIS) located statewide. The resources include any significant artifact, structure, or remains that is older than 45 years. This broad description includes prehistoric archaeology, historic archaeology and historic architecture. The

information center for this project area is the Eastern Information Center (EIC), located at University of California, Riverside (UCR).

Cultural Register

There are numerous cultural resources within the boundaries of the Agua Caliente Indian Reservation and/or the TUA that have special meaning to the Agua Caliente Band of Cahuilla Indians. In some cases, these meanings may be beyond the criteria that qualify resources for inclusion on the California Register or the National Register. To track these resources and their status, the THPO has established an Agua Caliente Cultural Register (Register). The Register contains information and data on places, districts, objects, sites, structures, architecture, archaeology, engineering, and culture and is maintained in both electronic and hard copy. Some of these resources are formally recorded with the EIC and some are recorded only in the Register.

As projects are completed and site records and reports are submitted to the THPO, new information will be placed into the Register. The Register consists of three components: a site record file; a US Geological Survey (USGS) 7.5" topographic map file, and; a library of cultural reports and other project related literature. The Register is in place for researching potential impacts to cultural resources.

Cultural Resources GIS Database

Beginning in September 2006, the THPO updated paper maps of recorded cultural resources for the Tribe on record at the EIC, located at UCR. Geographic Information Systems (GIS) can be utilized to identify spatial patterns and correlations with distance to resources, regional slope and elevation. Utilizing GIS we have compiled the spatial data of cultural resources throughout the Traditional Use Area (TUA). The data include an updated record search of the TUA, conducted at the EIC, historical GLO Plat maps, historical aerial photographs (county flood control imagery), current aerial photo coverage, county parcel data, and other applicable data sets. GIS enables the user to visualize multiple data sets to evaluate potential impacts to cultural resources within the TUA for internal and external project review, CEQA & NEPA projects, Section 106 consultation, project scoping and SB18 consultation. U.S.G.S. Topographic quadrangle maps at the information center include cultural resources and reports. Each mapped resource and report is given a unique identification assigned by the EIC.

A records search was conducted at the EIC on paper maps. For readability purposes each kind of information was recorded on a separate map; 1- resources, 2-reports 3-built environment. The Tribal GIS department scanned and geo-referenced the maps. The geo-referenced maps were brought into GIS as a layer and the previously recorded data was digitized in a "heads up" style. We choose to use line and polygon shapefiles, no point shapefiles were made. It was determined to be the best choice for future spatial analysis. The associated GIS attribute tables consist of assigned Trinomial and Primary numbers and have been linked to our corresponding access database.

The GIS database has been periodically updated with record search updates performed at the EIC. The new data will continue to be added to the existing database to have a current dataset. The digitized data is organized by kind of data (resources, reports, built). Resources will exist in their own shapefiles separate from previous studies. The Tribal GIS department has limited access to culturally sensitive data. There are currently only permissions to the THPO for

the GIS database. There is an agreement between the THPO and the Tribal GIS department regarding the need to maintain confidentiality of the information.

In addition, the THPO has a corresponding access database. The access database houses pertinent information for managing all of the GIS data and the paper copies of site records and reports. Some of the information included in the access database include: a site description, location, if the site has been tested, and if the site is eligible or listed on the National or California registers.

The GIS and Access databases aid in Preservation Planning and Management of resources within the Agua Caliente Reservation and Traditional Use Area.

Goal: Ensure that all identified resources, including burials/reburials, are listed in a secure database.

Objectives:

- Maintain a relational database
- Compile a reference library of published and gray literature, and an archive of recent events relating to preservation of the Tribe's cultural resources
- Produce a manual for CRM contractors with data collection and reporting requirements (site maps and forms) for information to be included in relational database

Issue 5. Preservation of Cultural Resources and Cultural Knowledge

Protecting cultural resources and knowledge are a way of respecting the past by maintaining a connection to the land, and the ancestors. Cultural resources are also a way of binding the community together through a common history and ancestry. Preservation and protection of resources are also a way of recording information about the past for future Agua Caliente people.

Standards and guidelines

Professional standards and guidelines, and codes of conduct, have been established by many professional archaeological organizations (e.g., Register of Professional Archaeologists, Society for American Archaeology, Society for California Archaeology, and Society for Historical Archaeology) as well as the Secretary of the Interior. Because the use of these standards can help ensure that appropriate, informed decisions are made relating to the protection of our historic and archaeological resources, THPO endorses adherence to the principles of these standards and encourages local governments and other organizations that employ or recommend archaeological professionals to consider their use.

Goal: Ensure professional ethical standards are followed and sensitive/confidentiality concerns are met for all archaeological/ethnographic work on Tribal lands, and within the Traditional Use Area

Objectives:

- Develop standards and guidelines for treatment of human remains
- Develop standards and guidelines for reports regarding sensitive and confidential concerns (see ARMR)

Research design

The development of the Research Design will be driven by Tribal members, especially Elders, and other stakeholders. The Research Design will prescribe all archaeological work on tribal lands and will guide efforts within the larger TUA.

Goal: Ensure that tribal members have input into the types of research conducted on the reservation and TUA.

Objective:

- Work with cultural advisors to develop a research framework that CRM contractors must utilize in their research designs for work on Tribal lands, and encourage use of that framework for all work within the Tribe's TUA

Significance assessment (see *Issue 2*)

The significance of the majority of prehistoric archaeological sites and TCPs is anchored in their potential to contribute to our knowledge of the past (National Register Criterion D). Because "knowledge of the past" involves a broad spectrum of issues related to chronology, culture history, subsistence and settlement strategies, prehistoric landscapes and ethnicity, and different theoretical orientations, there is no general agreement on which kinds of prehistoric remains are significant. The dynamic nature of significance from an archaeological perspective must be recognized.

Adding to the complexity of this issue is the fact that members of the Tribe and other tribes may attach a very different significance to prehistoric archaeological resources. Contexts that develop the histories of different regions or themes that tie disparate resources together help to establish their significance, thus assisting decision makers in discerning which resources may be worthy of preservation, and providing focus for preservation efforts.

Goal: Ensure that significance evaluations of cultural resources are undertaken in the context that blends Agua Caliente Tribal and historic preservation values.

Objectives:

- Base significance assessments on cultural advisors' input (if any)
- Develop contexts and themes for National Register nominations that reflect advisory board input

Resource protection: vandalism, burials/reburial

Perhaps the most direct threat to archaeological resources is vandalism. Vandalism typically occurs as the result of people churning archaeological deposits in search of artifacts for

personal collection or resale, or deliberately destroying sites to avert having to ever consider them in future land use decisions.

Goal: Protect all cultural resources through appropriate education, training and policy development.

Objectives:

- Train Tribal Rangers, and Cultural Monitors in all cultural resource laws (especially ARPA)
- Develop procedure to address burials and reburial (also see "Standards and guidelines" above)

Resource conservation: monitoring (see *Issue 3*), mitigation of adverse effects, and curation of collections and information (see *Issue 4*)

Resource conservation relates to the ongoing stewardship of the significant archaeological sites, districts, and landscapes, and the objects in storage that have come from these special places. Conservation covers a broad range of efforts that include the preservation of historically significant archaeological deposits and the objects that come from them, and the information that the public accrues as a result of archaeological excavation or the natural degradation of such deposits. Through conservation, tribal members offer a potential source of enrichment to future generations in the form of the opportunity to directly experience the actual material remains of their cultural heritage.

A further challenge to thoughtful archaeological resource preservation is the hesitance of stakeholders to consider alternative mitigations for archaeological resources beyond the routine excavation of deposits that are at risk.

Goal: Ensure on-going conservation and preservation strategies are in place so that Tribal Members may have a direct and vital link to the past.

Objectives:

- Work with Tribal Council, the HPAB and cultural advisors to compile a list of preferred mitigation procedures
- Pursue curation agreement with museum or designate alternate facility
- On-going Tribal Monitor training

Non-undertaking-related inventory of the Tribe's cultural resources

The present inventory of cultural resources is largely the result of surveys done to comply with state and federal regulations, chiefly under the NHPA, as well as surveys by local governments under the CEQA. Despite the considerable effort that has been put into these surveys, the total land area in the Tribe's TUA that has been subject to archaeological survey is relatively small, and the degree of survey coverage varies widely.

Goal: Acquire and compile information on cultural resources in areas not presently being affected by development

Objective:

- Pursue grant opportunities to fund survey and inventory of tribal lands

Issue 6. Outreach & Education

The most palpable benefit that the public receives from the cumulative effort to preserve archaeological resources is interpretative programs. The interpretation of archaeological resources is the broad activity that stands to most directly facilitate the heritage experience for the public. The THPO must build relationships with Cahuilla Elders, with other Cahuilla Bands with the Desert Cities, Riverside County, federal/state agencies, and the Agua Caliente Cultural Museum to provide educational and other opportunities for the public.

Goal: Impart a sense of connection with the past, deepen a sense of place, and instill appreciation of heritage among tribal members and the general public.

Objectives:

- Organize an event concurrent with the future museum opening
- Work with tribal and museum programs to develop cultural/language as well as historic preservation training programs
- Continue website development
- Develop brochures and upgrade existing site/park interpretive signs

Issue 7. Preserving the Recent Past

At the end of World War II, all of America, but especially California, entered into a prolonged state of economic growth and development, this resulted in the construction of millions of new buildings and structures in California. Because it grew faster than any other part of the nation in the era, California was the trendsetter in post-war architecture and design. Many of these post-war resources are now achieving the NPS minimal 50 year definition of historic used to evaluate significance.

Goal: Ensure that the historic built environment is documented and given consideration in any undertaking

Objective:

- Work with local government agencies on documenting and listing of historic resources

Management Recommendations & Mitigation Measures

Management recommendations outlined below provide general direction for managing cultural resources within the Agua Caliente Reservation and TUA. The following is an example of measures that may be used for the management of known historic properties and cultural resources within the Reservation and TUA or in the event of inadvertent discoveries requiring evaluation and eligibility determinations. Specific management recommendations will be

required on a project-by-project basis, appropriate to the nature of the proposed work and the determined level of effect. The Agua Caliente THPO in consultation with SHPO and/or the lead state agency are responsible, on a project-by-project basis, for the implementation, compliance, and approval of management recommendations.

Should archival investigation and field survey for cultural resources result in the identification of historic properties, management recommendations and mitigation of these resources will be required. The formulation of management recommendations and mitigation should be in accordance with the regulations applicable to a given project. Particularly with regard to the federal preservation process, multiple guidance publications are available to assist in the development of appropriate management recommendations and mitigation. Among these documents are:

- *Treatment of Archaeological Properties: A Handbook* (ACHP 1980)
- How to Apply the National Register Criteria for Evaluation; *National Register Bulletin 15* (NPS 1991)
- *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Weeks and Grimmer 1995)
- Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes; *Preservation Brief 36* (Birnbaum 1994)
- Guidelines for Evaluating and Documenting Traditional Cultural Properties; *National Register Bulletin 38* (Parker and King 1998)
- Tribal Ordinances dealing with management of cultural resources/historic properties

At a minimum, and as appropriate to a given project, management recommendations should include avoidance, site burial, the establishment of conservation easements, Native American and archaeological monitoring, and data recovery. These recommendations apply to properties determined as eligible in consultation with the THPO and to which an effect may result by particular project actions.

Archaeological Resources

Avoidance

In the event a cultural resources are discovered and determined to be of significance to the tribe and eligible under federal and/or state criteria, planned construction activities should be modified to avoid the resource, if feasible. Avoidance measures should include the establishment of conservation easements or the establishment of an exclusionary buffer installed prior to construction around the resource. If avoidance is not feasible, a plan should be created that will provide provisions to reduce project-related impacts to less than significant levels for cultural resources determined eligible.

Physical Demarcation and Protection

In instances where the placement of a project facility or action will be in, or within proximity of, a known cultural resource determined to be of significance to the tribe and eligible under federal and/or state criteria, it is recommended that the cultural resource be temporarily

fenced or otherwise demarcated on the ground, and the area shall be designated as environmentally sensitive. Project activities should be directed away from the cultural resource and construction personnel should be directed to avoid entering the area. Where cultural resource boundaries are unknown, the protected area shall include a buffer zone with an established radius, to be determined according to the particular conditions of the proposed project and the existing environment. In some cases, additional archaeological work may be required to demarcate the boundaries of the cultural resource to ascertain whether the cultural resource can be avoided.

Preservation in Place (Archaeological Site Capping)

Should archaeological sites determined to be of significance to the tribe and eligible under federal and/or state criteria be present within a proposed project area, and avoidance is not feasible Archaeological Site Capping Plan is recommended. This plan shall be developed through collaboration with the THPO and in accordance with applicable laws and regulations, as should it be approved by the designated agencies prior to implementation. Site Capping or 'burial' is a process that involves the protection of an archaeological site by intentional burial.

The Archaeological Site Capping Plan shall provide detailed burial procedures, which may involve the installation of an approved fabric over the site's surface prior to the deposition of imported fill or other material determined to be suitable. The plan should also detail the depth and extent of capping with specific measures pertaining to the installation process, the identification of approved and appropriate materials for the capping process, as well as for the identification of other actions to occur once cap installation is complete. Such measures may include (though are not limited to) stipulations requiring the presence of qualified archaeologists to monitor cap installation, detailed measures specifying detailed steps for the capping process as is appropriate to a given project, and provisions for the landscaping of the capped surface with approved vegetation or the care of a cap once installation is complete.

Conservation Easements

In instances where the placement of a project facility or action will be in, or within proximity of, a known cultural resource determined to be of significance to the tribe and eligible under federal and/or state criteria, the establishment of a conservation easement is recommended. By definition, a *conservation easement* represents legal agreements entered into voluntarily, where future developmental rights of a given property is transferred to the local government or a non-profit by gifting or by donation (Westrup 2006: 1; Bick and Haney 2001). A conservation easement can be based around the protection of agricultural, natural, or historical and archaeological resources, depending upon the language contained within the easement. With regard to this HPMP, the proposed recommended use of conservation easements is grounded upon the preservation of cultural resources, both archaeological and historic-period built environment. Conservation easements, in general, can be applied for the protection of the natural landscape whether justification for that protection is based in the preservation of agricultural, ranching, timber harvesting, natural open-space, or archaeological, cultural, or historical resources. For a general overview of conservation easements including examples of deed and language see Bick and Haney (2001).

Native American Monitoring and Archaeological Monitoring

Where ground-disturbing activities associated with a given project are anticipated within or in proximity of a known cultural resource located in the Agua Caliente Reservation Native American monitoring shall be required by individuals deemed qualified by the THPO. Qualified individuals shall have training from the THPO or qualified consultant authorized by the THPO. Training shall involve identification of artifact types and materials, appropriate level of recordation of resources, and protocols for halting ground disturbances in the event of discovery. For monitoring off the reservation, such as on TUA's, which may be owned by federal and/or state agencies or by private parties, monitoring procedures shall adhere to those set forth by the lead agency in consultation with the SHPO. It is advised that all areas known to have a cultural resource determined to be of significance to the tribe and eligible under federal and/or state criteria be monitored by both a qualified Native American and Archaeological monitor.

On a project-by-project basis and where a project will have an effect on known cultural resources, the development of an archaeological monitoring plan is recommended. This plan will include detailed instructions and required actions to be taken during ground-disturbing activities. Also included in the monitoring plan, and as appropriate to the project, will be instruction and recommendations for the documentation of discovered finds. After all ground-disturbing activities are completed a cultural resources compliance monitoring report shall be prepared. The report should include the level of effort involved in monitoring cultural resources, a description of activities monitored, documentation resulting from monitoring as appendices, and the number and types of new cultural resources discoveries (if any), including evaluations and treatment action.

Data Recovery

Where avoidance of a cultural resource is not feasible and data recovery is deemed necessary for the mitigation of impacts, a data recovery plan is recommended, developed on a project-by-project basis, by an individual who meets the Secretary of Interior's Professional Qualifications Standards for Archaeology. During the development of this plan, close collaboration with the THPO is recommended, as will THPO approval of the plan be required should the cultural resources to be impacted or affected be located within the Agua Caliente Indian Reservation or TUA. Established within data recovery plan shall define the type of investigation to occur, the governing sampling strategy to be employed, methodology, and shall provide specific procedures and protocols pertaining to the data recovery investigation to occur.

Data recovery may include sub-surface testing and excavation of archaeological sites and the post-excavation analysis of recovered materials. Guidance for the recovery of data from archaeological sites may be found in the ACHP publication titled *Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites*, which is available online at http://www.achp.gov/archguide.html (Accessed on August 9, 2011). All data recovery activities are likewise to be completed by individuals meets the Secretary of Interior's Professional Qualifications Standards for Archaeology. It is recommended that involvement of Native American individuals deemed qualified by, or an authorized consultant of, the THPO be incorporated into the data recovery plan. Upon completion of data recovery investigation, a detailed technical report will be created to discuss the methodology, analysis results, and conclusions resulting from the investigation

Built Environment (Architectural History) Properties

In regards to built environment properties determined to be of significance to the tribe and eligible under federal and/or state criteria, the preferred mitigation is to avoid adverse effects to historical resources through project design. If the resource and effect cannot be entirely avoided, mitigation measures to minimize harm to the resource shall be taken. Depending on project effects, mitigation measures can include, but are not limited to:

- Implementing the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings;
- Preparing an historic resource management plan (e.g., Historic Structures Report);
- Adding new construction that is compatible in size, scale, materials, color, and workmanship to the historic resource (such additions, whether portions of existing buildings or additions to historic districts, shall be clearly distinguishable from historic fabric); and
- Screening incompatible new construction from view through the use of berms, walls, and landscaping in keeping with the historic period and character of the resource.

CEQA Guidelines section 15064.5(b) further states that a project that follows the Secretary of Interior Standards generally mitigates a project's effects to a level of, less than a significant impact, on the historical resource.

Implementation Procedures

To meet the stated goals and objectives outlined in this HPMP, the following implementation procedures have been developed. These procedures represent a general collection of procedures that will assist in the future identification, inventorying, and investigation or analysis of cultural resources located within the Agua Caliente Reservation and TUA.

Procedures for Tribal Membership and Community Involvement

The Agua Caliente THPO shall incorporate a continued channel of communication with Tribal committees, committee members, and the broader Tribal community with regards to the management and status of the Tribe's cultural heritage and cultural resources. Continued cooperative efforts shall be initiated between the THPO, the Tribal Historic Preservation Advisory Board, the Historic Preservation Advisory Board, and with neighboring non-Tribal historic preservation agencies, societies, and organizations.

Procedures for Inadvertent Discovery

In the event that known or newly identified, potentially significant cultural resources are discovered and cannot be avoided by a given project, further archaeological work is recommended. Such work shall be conducted in accordance with the governing regulatory framework for a given project, to assess the importance/significance of the resource prior to project implementation. The work shall be conducted in formal compliance with NEPA, Section 106 of NHPA, and CEQA Sections 15064.5 and 15126.4. If newly discovered cultural resources are determined to be of significance to the tribe and eligible under federal and/or state criteria, avoidance is recommended. If avoidance is not feasible, a treatment plan shall be developed and approved by the designated Agencies or parties, prior to onset of project-related activities. It is recommended that the inadvertent discoveries plan include a treatment plan for sites determined through consultation with the THPO as eligible for NRHP/CRHR. This plan shall include a treatment strategy based on the research design, field data collection methods, artifact analysis and processing, and procedures and guidelines for the final curation of the collection(s).

Procedures for Vandalism and Looting

Through education and outreach, the Agua Caliente THPO shall collaborate with the Tribal Community, their non-tribal neighbors, bordering cities, and other organizations that share an interest in the preservation and protection of cultural resources. Periodic monitoring of known cultural resources within the Reservation and TUA by the THPO may occur to assess infractions upon the integrity of the resource as a result of vandalism or looting activities. In the event that vandalism or looting is noted at cultural resources located with the Reservation or the TUA, the Agua Caliente THPO shall be contacted. The act of vandalism or looting shall also be reported to the appropriate law enforcement officials, depending upon the location of that resource within private, federal, or Tribal jurisdictions. Specific identification of appropriate parties and their responsibilities is dependent upon various conditions. An assessment of the extent of damage incurred at a cultural resource as a result of vandalism or looting should be

determined and documented by individuals deemed qualified by the THPO or by individuals who meet the Secretary of Interior's Professional Qualifications Standards for Archaeology, Architectural History, or History, as is appropriate to the resource in question.

Digital Data Recordation and Information Management Procedures

Every effort shall be made to record data pertaining to cultural resources in a fashion consistent with the THPO Cultural Register and Cultural Resources GIS Database. Future cultural resource investigations or studies to occur within the Reservation, within Tribal lands outside of the Reservation, or TUA shall coordinate with the THPO so as to identify data that may be incorporated into the THPO's Geographic Information System and thereby increase the Agua Caliente Tribe to better understand its cultural resources and increase their ability to manage those resources.

Treatment of Human Remains

Though this may vary depending upon project and location, a potential may exist for the discovery of unanticipated human burials or cremations. If human remains are encountered on or off site, California Health and Safety Code, Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and, in the case of discovery on non-federal land, disposition pursuant to Public Resources Code, Section 5097.98. The County Coroner and appropriate or designated officials, including municipal, Agency, and Agua Caliente THPO representatives, shall be notified of the find immediately. Additionally, it is recommended that an exclusion area be established in accordance with the designated Agency requirements. The ACBCI THPO has a Treatment of Human Remains Policy for implementation on the Reservation (ACBCI THPO 2004).

If the remains are determined to be Native American and are located on federal land, the designated federal agency will be responsible for the completion of the Native American Graves Protection and Repatriation Act (NAGPRA) investigation process; the federal agency shall comply with all NAGPRA protocols regarding excavation and inadvertent discoveries of human remains. If the remains are determined to be Native American and are located on non-federal land, the Coroner shall notify the Native American Heritage Commission (NAHC) and make suggestions for disposition of the remains. The NAHC shall then name the Most Likely Descendant (MLD). With the permission of the non-federal landowner or authorized representative, the MLD may inspect the site of the discovery. The MLD should complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Procedures for Curation

It is also recommended that cultural material removed during the course of monitoring or other treatment measures be bagged and catalogued in the field, and analyzed. Cultural materials should be analyzed to characterize the resource(s) and their association to existing regional chronologies. The materials, and the contexts in which they were sampled, should also be evaluated with regard to the eligibility criteria for inclusion on the NRHP. The objectives of laboratory processing and analysis are to determine, to the extent possible, the date, function, cultural affiliation and significance of the archaeological site(s), and to prepare artifacts for curation. Artifacts shall be processed (i.e., cleaned, catalogued, and analyzed) according to the

Secretary of the Interior's Standards and Guidelines for Curation (36 CFR 79). All artifacts, monitoring logs, and photographs shall be placed in appropriately labeled boxes for temporary storage by the consulting firm until a final curation facility is determined. As part of inadvertent discoveries plan, final curation shall be at a 36 CFR 79-compliant facility acceptable to the designated agency and funded by the Applicant.

Reporting Requirements

Reporting requirements will be specific to each individual project and it is recommended that definition of these requirements and procedures be clearly defined prior to the commencement of a project. For archaeological sites discovered or relocated during survey or encountered during monitoring, documentation may include, but is by no means limited to: photograph documentation of the site and archaeological finds, completion of daily monitoring or work logs, documentation of construction or survey activities including observations, types of equipment used, challenges encountered, and any new archaeological discoveries (including the cultural material observed and location). It is likewise recommended that reporting be completed by a qualified archaeologist, following the Office of Historic Preservation (OHP) Guide when recording any new discoveries on applicable Department of Parks and Recreation (DPR) forms and provide completed forms to the senior cultural resource staff for review.

If cultural resources are identified in the field, the survey teams will record these resources by completing the appropriate Department of Park and Recreation (DPR) 523 Series forms. It is recommended that form information be collected using a combination of staff observations and data recording devices including Global Positioning System (GPS) and digital cameras. In particular, the use of GPS units is highly recommended and digital locational data pertaining to cultural resources within the Agua Caliente Reservation or TUA should be provided to the THPO, for inclusion in the GIS Register. When digital recording devices are used during fieldwork, the development or establishment of protocols for the use of such devices are established prior to fieldwork, including data collection, data storage and security, as well as assurance of data quality.

All projects for which the investigation of cultural resources within the Agua Caliente Reservation and TUA are completed should result in the drafting of a final technical report. This technical report will follow the guidelines and structure, as appropriate to the governing regulations. Generally, it is recommended that cultural resources technical reports follow the Archaeological Resource Management Report (ARMR) format. The ARMR format has been developed by the California OHP, in accordance with and direction of state and federal mandates (CA OHP 1990). ARMR contents and format include the following:

I. Cover Letter
II. Title Page
III. Table of Contents
IV. Management Summary/Abstract
V. Undertaking Information/Introduction
VI. Setting
VII. Research Design

VIII. Methods
IX. Report of Findings
X. Discussion/Interpretation
XI. Management Considerations
XII. References
XIII. Appendices

Education and Outreach

The development of specific procedures associated with education and outreach should be completed on a project-by-project basis. Generally, education and outreach procedures should include both professional and public outreach initiatives, which may include stipulations requiring the project owner to ensure that research papers are created and present at a professional conferences, to inform the professional archaeological community about the results of the evaluation and data recovery program implemented for a given project, as well as to interpret the implications for our understanding of the prehistory and early history of Native American life in the region. Public outreach and educational efforts should likewise be included, requiring the project owner to prepare and present materials that interpret the findings of their studies for the Agua Caliente Tribal community and the general public. Project owners should propose at least one outreach project per project and in coordination with the Agua Caliente THPO. Public outreach shall likewise include presentation by Tribal Elders or the THPO regarding the significance of these types of resources to better educate the broader public and archaeological community about Tribal cultural heritage and their perspective on cultural resource management and preservation.

Examples of public outreach or educational efforts may include one-time preparation of an instructional module or one-time preparation of a public interpretation brochure or through the provision of collaboration with the Agua Caliente Cultural Museum by way of workshops, presentations, exhibits, symposiums, or research initiatives that will be held locally on the Reservation, at the museum, or at other specified locations. The development of instructional websites can also be listed amongst these examples of public outreach and educational initiatives. All public outreach efforts shall include the Agua Caliente Tribal membership as well as the general public, particularly those individuals who may not readily be able to attend professional conferences, symposiums, or other such gatherings.

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Glossary

AB 2641 is a bill in the California Assembly that was signed into law September 30, 2006. It requires landowners/developers to consult with descendant tribes when human remains are uncovered during development. Descendants or representatives of descendant tribes are allowed to visit the discovery site and make recommendations for treatment. Land-disturbing activities must cease until disposition is determined.

ACBCI is the Agua Caliente Band of Cahuilla Indians, a federally-recognized tribe established in 1876 with lands interspersed with the Coachella Valley communities of Palm Springs, Cathedral City, and Rancho Mirage.

Agua Caliente Cultural Register is the Tribe's central and secure and confidential repository for the storage of cultural and historic information and materials relevant to cultural resource management and historic preservation within the Agua Caliente Indian Reservation and its Traditional Use Area. Records may include maps, site records, cultural resources inventory reports, and a reference library.

AIRFA is the American Indian Religious Freedom Act of 1978 (42 USC 1996 and 1996a), a joint resolution of Congress expressing a policy to respect and protect the inherent right of Indian tribes to exercise their traditional religions.

Antiquities Act of 1906, as per Title 16 of the United States Code, Sections 431-433, establishes criminal penalties to protect, and provides authorization for scientific investigation through the acquisition of necessary permission of, cultural resources on Federal lands. This act likewise permits the President to set aside public lands as National Monuments or to receive private lands donated for the purpose of designation as National Monuments.

ARPA is the Archaeological Resources Protection Act, a federal law passed in 1979 that requires a permit before any archaeological excavation is allowed on public land, including tribal land. This law makes unlawful (unpermitted) excavation a crime and is used in cases of vandalism or unauthorized damage to archaeological sites.

Archaeological Resources Protection Act of 1979 (ARPA) Under Title 16 of the United States Code Section 470aa-470mm, this act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land.

Archaic Period is the term used to define human occupation in North American prehistory between 5,000 B.C. and A.D. 500. This period is characterized by the emergence of several distinctive regional adaptations to varying local conditions. In the western deserts, the Archaic spans the time from the end of cooler and wetter climatic conditions of the early Holocene, at around 5,000 B.C., to the introduction of pottery and bow-and-arrow technology, around A.D. 500.

Built Environment (Architectural History) consists of property types represented by any standing, currently functioning, buildings or structures that are older than 45 years in age or are associable with significant individuals or events in history, particularly with regards to the history of the region or of the state.

Cal-NAGPRA is California's version (passed in 2001) of the federal NAGPRA provisions regarding repatriation to tribes from existing state-funded collections: see below for NAGPRA.

CEQA is California's Environmental Quality Act, which is the primary state-level regulatory framework governing the development of lands and the management of effects such development will bring to the California resources. Under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources.

Curation in this document means the permanent storage of items in a museum or other secure setting.

Historic Period is the general term used to describe the period in Californian history that is characteristically separated into three sub-periods, beginning with the arrival of Spanish explorers in the late 1500s through the Spanish Period (1542-1821), the Mexican Period (1821-1848), and the American Period (1848-1900).

Historic Property is any district, site, building, structure, or object included or eligible for inclusion in the National Register of Historic Places.Monitoring is a precautionary activity performed by Tribal Cultural Monitors where the possibility of archaeological features, deposits or objects being uncovered in the course of development work, or archaeological excavations is considered to be possible.

HSA is the Historic Sites Act (1935) appoints the Secretary of the Interior as the responsible party for the establishment of the National Survey of Historic Sites and Buildings and for instituting the US government relationship with cultural resources preservation. Central to this act was the concept that, regardless of the originator and whose ancestors they may be, cultural resources are important to the entire nation.

Late Prehistoric/Protohistoric Period is the term used in reference the period of approximately A.D. 500 until the American appearance into the area at the turn of the 19th century. The *Protohistoric Period* encompasses a protracted 300-year period of sporadic European exploration and colonization during which aboriginal lifeways continued in the southern California deserts.

Mitigation is treatment that attempts to minimize the adverse effects of an undertaking on a cultural resource. The preferred treatment is preservation, but that is not always possible. Other mitigation measures may include recovery and reinterment of burials or data recovery by excavation and/or collection of oral histories.

NAGPRA is the Native American Graves Protection and Repatriation Act of 1990. It has two major components. The first outlines a process for repatriation to tribes of human remains, funerary objects, and items of cultural patrimony in existing museum and university collections. The second component covers situations in which human remains are uncovered either inadvertently or as a result of intentional excavation.

NEPA is the National Environmental Policy Act of 1969 (42 USC 4321, and 4331-4335), which requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. Impacts to cultural resources must also be considered.

NHPA is the National Historic Preservation Act of 1966, which set up a historic preservation program within the National Park Service, authorized and helped to fund state programs (SHPO), requires identification of cultural resources on all federal lands (including tribal lands), created a National Register and guidance for determining which sites are eligible for that list of historic places, and required all federal agencies to take cultural resources into consideration when planning potentially land-disturbing projects (undertakings). In 199X an important amendment to this law authorized and helped to fund tribal programs (THPO) that could assume the responsibilities of state programs on their own tribal lands.

NRHP or the National Register of Historic Places (also state and local registers) is a list of properties that have been found to have cultural or historical significance and that retain their integrity (have not been altered so that their significant character can no longer be recognized).

Paleoindian is the term referring to the period of human culture in North American dating from ca. 10000 – 6000 cal. B.C. (Martinez et al. 2008) and therefore spanning the Late Pleistocene and Early Holocene.

Prehistoric Period is the general term typically used to define the period of human occupation in North American from the first appearance of people on the continent during the Paleoindian Period (10,000-5,000 B.C.), through the Archaic Period (5,000 B.C.–A.D. 500), and ending with the Late Prehistoric/Protohistoric Period (A.D. 500–CA. A.D. 1850).

SB 18 is a bill in the California Senate that was signed into law in 2004. It requires city and county governments to consult with tribes before adopting or amending their General Plans, Specific Plans or when designating land as Open Space. The intent is to enable tribal concerns regarding cultural places to be considered early in the planning process.

Section 106 refers to Section 106 of the National Historic Preservation Act, which (among many other things) requires consideration of the impact on cultural resources on any undertaking (see below) under federal purview. Because of Section 106, archaeological survey is required prior to land-disturbing activities and, if significant places are found that could be adversely affected by the undertaking, treatment measures such as data recovery or monitoring may be required.

Significance: The NHPA (see above) recognizes four basic types of significance: (a) connection with important people, (b) connection with important events, (c) embodying a particular style or quality of workmanship, and (d) has yielded or has the potential to yield important information on the past. Another type of significance was outlined in National Register Bulletin 38: significance derived from the role the property plays in a living community's historically rooted beliefs, customs, and practices. These latter places are known as TCPs (see below).

Traditional Cultural Places (TCPs) are associated with the cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural identity of the community.

Traditional Use Area (TUA) as used in this document refers to a bounded area known to have been used by ancestors of the Tribe.

Tribal Historic Preservation Officer (THPO), the establishment of which is mandated in 1992 amendments to the NHPA as a means to encourage and increase participation by Native populations in the preservation process. This office, once recognized and established, can assume the responsibilities of the State Historic Preservation Office (SHPO) for cultural resources present on tribal lands.

Undertaking refers to any federal project or any federally licensed or permitted project, whether on tribal, federal, or other land, that has the potential to affect cultural resources.

Agua Caliente Band of Cahuilla Indians

Tribal Historic Preservation Office

Research Design

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TABLE OF CONTENTS

1 Introduction 1
2 Theoretical Orientation 4
2.1 Theoretical Approach 4
2.1.1 Summary of Applicable Theoretical Concepts 7
2.1.2 Theoretical Approach for the Current Research Design 11
3 Cultural Context 14
3.1 Environmental Setting 14
3.1.1 Physiography 14
3.1.2 Geology 15
3.1.3 Flora and Fauna 15
3.1.4 Agua Caliente Indian Reservation 17
3.1.5 Traditional Use Areas 17
3.2 Prehistoric Period 19
3.2.1 Regional Chronological Setting 21
3.2.2 Paleoindian Period: San Dieguito (10,000–5,000 B.C.) 23
3.2.3 Archaic Period: Pinto and Amargosa Complexes (5,000 B.C.–A.D. 500) 26
3.2.4 Late Prehistoric/Protohistoric Period: Patayan Complex (A.D. 500–ca. A.D. 1850) 27
3.3 Historic-Period 30
3.3.1 Spanish Period (1542 to 1821) 31
3.3.2 Mexican Period (1821 to 1848) 31
3.3.3 American Period (1848 to 1900) 32
3.4 Modern/Reservation Period (1900–Present) 33
4 Ethnographic Context 35
5 Major Research Objectives and the Definition of Hypotheses 38
5.1 Anticipated Site Typologies 39
5.1.1 Prehistoric Archaeological and Ethnographic Site Types 39
5.1.2 Historic-Period Archaeological Site Types 42
5.1.3 Built-environment (Architectural History) Property Types 44
5.1.4 Traditional Use Areas (TUAs) and Traditional Cultural Properties (TCPs) 44
5.1.5 Considerations Regarding Site Significance and Site Integrity 45
5.2 Prehistoric and Ethnographic Research Questions, by Themes 46

5.2.1 Chronology 47
5.2.2 Geoarchaeology 48
5.2.3 Settlement and Subsistence Themes 49
5.2.4 Trade and Economic Exchange 52
5.2.5 Material(s) Procurement 54
5.2.6 Lithic Technology 56
5.2.7 Ritual and Ceremony 58
5.2.8 Tribal Cultural Land Use and Practice 60
5.3 Historic-Period (Built Environment& Archaeological) Research Questions, By Themes 62
5.3.1 Historic-Period Settlement 62
5.3.2 Historic-Period Mining 64
5.3.3 Railroad 65
5.3.4 Tribal Recognition/Establishment of Tribal Government & Reservation 66
5.3.5 Desert Tourism/Health-Spa Industry 67
6 Study Methods 68
7 Research Priorities 70
8 Implementation of Research 70
9 References 71
10 Glossary 101

1 INTRODUCTION

Southern California is a region that has hosted a long and diversified history of human occupation, a fact that continues to be proven today. Throughout the modern-day counties of the Southern California region, urban planning and developmental activities have resulted in the modification of large swaths of natural habitats and has impacted resources. So long as humans have occupied these lands the need for access to natural resources, and thus the natural habitat, has not only affected the settlement patterns and strategies of those occupant populations but has likewise resulted in changes to the natural environment. Evidence of human settlement in this region and the effect that settlement has had on the natural environment has been widely documented. Past scholarly and academic ventures, as well as the very developmental process itself, have all contributed to this documentation and collection of evidence, as modern scholars and scientists attempt to reconstruct and understand the past and its people. Academic pursuits including archaeology, anthropology, and history are all born from this inherent human desire to understand the past. Since the modern evolution of urban planning and development, along with environmental protection, archaeologists and historians in particular have become major contributors to our understanding of the past. Though the aforementioned are often seen as the only participants in this search, other interested groups and individuals exist. The traditional Native American peoples and their Tribal organizations are the most notable interested groups relevant to the current study.

Early European explorers and settlers to the Americas openly acknowledged the presence of native populations in this "new" land however differences were apparent in how they perceived, treated, and interacted with those peoples (Washburn 1988). Diverse bodies of academic sources deal with the history of Native American and European (later, American) interactions and the eventual legal definitions and frameworks establishing Tribal autonomy and sovereignty, as well as Tribal-federal relations. The advancement of U.S. law and the recognition of Native tribes as independent governmental institutions have increased the need for diplomatic and legal guides through which dialogue and conflict resolution can occur. Davies and Clow (2009) state "[t]he American nation is a republic with three distinct governments that sometimes work together and at other times work against each other. The state governments, and their county and city subdivisions, compose one category of government; the United States Congress and the federal court system compose a second; and the various tribal councils and courts compose a third, and no less important, category." Each of these governments, along with individual citizens, and other hereunto identified interest groups can be considered as stakeholders, each with a unique perspective towards the understanding of what constitutes cultural heritage, why such heritage is important, and how it should be preserved. Perspectives offered by such interested stakeholders likewise serve as an important and unique collection of knowledge.

Perspectives play a pivotal role in the depiction, reconstruction, and thus the understanding of the past. Recently, many are of the opinion that scholarly or academic depictions of the past, particularly those derived through archaeological study, are representative of a "western" or "colonial" perspective (Atalay 2006; Colwell-Chanthaphonh & Ferguson 2008; Givens 2004; Gonzalez, et al. 2006; Ucko 1995; Watkins 2005b). As a result of this single dominant perspective, it is argued, the native or "community" perspective is often-times overlooked. As such disciplines such as anthropology and archaeology focus on the observation, documentation, and analysis of "other" or by-gone cultures and hence it is inferred that the practitioner or observer is outside or separate from the subject being studied. Recent practice has given rise to distinct fields of study within anthropology and, of particular interest to the current study, archaeology that attempt to augment this single perspective approach through collaborative discourse and the inclusion of others.

The following research design represents an attempt to incorporate two perspectives, both of which have specific knowledge about the region, the environment, and cultural resources, as well as vested interests in their protection, preservation, and management. The basis for this research design includes the incorporation of traditional Tribal knowledge of the Agua Caliente Band of Cahuilla Indians with "scientific" knowledge obtained through past and present archaeological, ethnographical, and anthropological study. Various academic theories are presented and portions adopted to assist in the creation of pertinent research themes as determined through collaboration with the Tribal Historic Preservation Office (THPO) and Tribal Members. It is intended that this research design will serve as a guide for any future archaeological or cultural study conducted on the Reservation and in the Traditional Use Area (TUA). This research design has been developed for reference or use by the Agua Caliente THPO -- as well as future planners, archaeologists, and other researchers --and is specifically intended to assist the Tribe in evaluating future impacts to cultural resources on the Reservation and within the TUA. The research objectives presented here are specific to identification efforts, not excavation/data recovery. This research design attempts to provide a broad understanding of theoretical approaches, and hence research themes and questions, most pertinent to the Agua Caliente Indian Reservation and its immediate environs. It is likely that any future research designs created for work within the Agua Caliente Band of Cahuilla Reservation or TUAs will differ from what is presented here, due to variations in the type and scale of any given project. Readers of this research design are encouraged to collaborate directly with the Agua Caliente Band of Cahuilla Indians THPO to discuss the theoretical basis and research objectives for their particular project.

This research design is the result of a collaborative effort between the Agua Caliente THPO and the URS Corporation - San Diego Office, Cultural Resources Management (CRM) group,

with all research and development decisions being made through consultation with the THPO and THPO staff. Such collaboration led to the identification of important goals and research objectives discussed in this research design, including, though not limited to: current condition of cultural resources within Tribal land; extant data gaps; state and federal priority areas; current scholarly theoretical conclusions regarding prehistory within the TUA; and the identification of existing contradictions to these scholarly hypotheses.

2 THEORETICAL ORIENTATION

2.1 THEORETICAL APPROACH

The theoretical approach for this research design consists of a variety of paradigms and theoretical positions that respectively represent two major perspectives on cultural resources, their management, and their preservation. Awareness regarding cultural resources and the need for their protection began to take root in the late 19th century. This led to the enactment of the Antiquities Act of 1906, which was followed by many other federal, state, and local preservation initiatives. From the turn of the century through to the 1950s, a multitude of federal historic preservation-oriented legislation has come to be, among them and to name just a few, the Historic Sites Act (1935), the National Historic Preservation Act (1966), and the National Environmental Policy Act (1969) (King 2000 & 2004). All of these endeavored to define cultural resources, and to provide a legal framework for recognizing their importance to the national identity. The perspective portrayed through such legislation can in essence be described as singular, representing that of the American government, based upon an understanding and knowledge generated by the academic community. Noticeably muted, if present at all, in the development of cultural resources management within the United States is the aboriginal, or native, community perspective.

It wasn't until the 1970s, and more poignantly in the 1980s, that native populations in the United States demanded recognition of their interests and concerns, as well as their traditional cultural values (King 2008: 27-28, 2002: 101; Ferguson 1996). As a result of this increased activism by native populations, as Thomas King states, an "environment of uncertainty" was created (2002: 101). Though rapid progress occurred between the 1980s and 1990s, "indigenous groups and institutional CRM alike" were unsure "about the roles tribes and other native groups should play and the way they should be treated" (King 2002: 101). It is within this air of confusion that "Congress has made laws, presidents have issued executive orders, agencies have issued regulations, and practitioners have evolved standards, guidelines, and ways of doing business," the most famous of the laws being the Native American Graves Protection and Repatriation Act of 1990, as amended (King 2002: 102; King 2008, *cf.* NPS 2011, Gunn 2010). It is beyond the scope and purpose of the present research design to provide a comprehensive review of these developments or of the Native American self-determination movement, as several overviews presently exist.

The prior, and on-going, development of cultural heritage and environmental protection laws within the United States, as well as the subsequent strengthening of Native American and Tribal identity and self-determination, is testament to the existence of two related,

though at times different, perspectives. On the one side is the academic, or more specifically, the anthropological/archaeological perspective rooted in the scientific processes through which an understanding and reconstruction of the past is achieved. On the other, there is a perspective of native communities who have special ties to the region being investigated by the academic community, or for whom the past has special, traditional, or sacred value. Such native communities or "publics" each have unique understandings about the past, what constitutes a cultural resource, the importance of that resource, and what should be done to ensure the protection and preservation of a shared cultural heritage. At times, these two perspectives stand counter to one another, even though both perspectives are inevitably linked through their interest in the past and their concern for its protection. These two perspectives were selected from a multitude of other potential perspectives specifically because of the nature and goals of the current study; they should by no means be interpreted as a conclusive statement that these are the only, or most important, perspectives.

Though certainly not the case, it may appear that the two perspectives presented above stand separate from one another. The theoretical approach being here argued is one of collaboration, where both perspectives are collectively important to the discussion of cultural resources, and should be incorporated into the study, management, and protection of such resources. The theoretical positions being argued in this research design represent a combined understanding of the established academic and CRM perspective, which has given rise to an extensive amount of informative data and grey literature, with that of the Tribal or Native population perspective. The central theoretical approach to this research design advocates for recognition of the beneficial information and insight retained in Tribal knowledge and the importance of the inclusion of this information into the study of cultural resources. The central theoretical approach is grounded in collaborative concepts that will, it is hoped, demonstrate the equal value and benefit to be gained from Tribal knowledge as that obtained through academic and scholarly study or CRM. Through collaboration, the fusing of the various knowledge-bases (or perspectives) can lead to a more balanced understanding of the past:

> *In a collaborative model…the intermixed interest groups must collaboratively negotiate the past by reworking scientific concepts with traditional knowledge, finding commonalities in how each kind of historical knowledge melds to create a more holistic view of the past" (Colwell-Chanthaphonh & Ferguson 2008: 13)*

With this two-perspective orientation established, further discussion is necessary so that specific research goals, domains, and questions can be developed. Before specific research objectives can be identified, it is necessary to more concretely describe the theoretical components that make up, in part, the two perspectives. Both perspectives contain

common threads which are grounded in the various disciplines and sub-disciplines of anthropology, ethnography, archaeology, and history. Particularly applicable to both perspectives are principles and concepts common to:

- Indigenous Archaeology
- Public or "Community" Archaeology
- Cultural Resources Management
- Ethnography or Ethnographic Archaeology
- Geoarchaeology
- Historical Archaeology

2.1.1 Summary of Applicable Theoretical Concepts

It is beyond the scope and purpose of the present study to offer a detailed discussion for each of these disciplines. A brief summary of each follows, along with some references to assist those interested in obtaining more information.

Indigenous Archaeology

As defined by R.J. Muckle, *indigenous archaeology* is "archaeology that is done either by, with, or for indigenous peoples" (2006: 49). It has been widely acknowledged that archaeological science and anthropological analysis were previously performed from an outsider's vantage point, where those undertaking the study were considered separate from those being studied (Watkins 2005a: 432). As Q. Castañeda and C. Matthews poignantly note:

> *Archaeology, in other words, is a sociocultural phenomenon that has historically developed in specific sociocultural circumstances, in particular institutional and organization form, with determinate economic bases, using exclusive languages, codes, and knowledges, and with definite sociohistorical roles and political functions in civil society" (2008: 5).*

Increased awareness of this dichotomy occurred within the anthropological and archaeological disciplines by the 1980s and 1990s (Ferguson & Colwell-Chanthaphonh 2003), perhaps parallel with or directly relating to socio-political movements by Native American populations for self-determination (Watkins 2005; *cf.* Trigger 1980, 1986; Ferguson 1996). A shift of approach resulted with this acknowledgement; hence the development of *indigenous archaeology*, among other sub-disciplines, and the encouragement of a more collaborative pursuit of the past (Watkins 2000, 2003; Atalay 2006, 2007; Wobst 2005; Anyon 1991). The act of collaboration, a term with very specific meaning to indigenous or community archaeology, is of great importance. As C. Colwell-Chanthaphonh and T.J. Ferguson note "[c]ollaboration, then, is not one uniform idea or practice but a range of strategies that seek to link the archaeological enterprise with different publics by working together" (2008: 1). Through such an act as collaboration, archaeologists must adjust and adapt to a new environment, one where they are "working for and with Native communities" while attempting to achieve a "balance between scientific goals and the values of Indigenous cultural systems" (Colwell-Chanthaphonh & Ferguson 2008: 6).

Public* or "*Community" Archaeology

Public or *"Community" Archaeology* is related to *indigenous archaeology*, in that it aims to "bring descendant and stake-holder communities and archaeology closer together" (Geurds 2007: 46). Geurds continues, providing a general definition of this endeavor "as the collaboration between local populations and the archaeologist who investigates a part of that population's history" (2007: 46).This branch of archaeological study entered the scene in the 1960s, first in the United States and later spreading internationally (Colwell-Chanthaphonh & Ferguson 2008: 8). Imperative to this form of archaeology is, firstly, the identification and recognition of the stake-holder(s) or community(-ies) that may be or may wish to be involved. Once the stake-holders or the target communities have been identified, the second imperative is the active exchange of information between these communities and the archaeological or research community (Geurds 2007). The importance of this exchange of information is further emphasized with the inclusion of "Public Education and Outreach" as one of six principles of ethics identified by the Society for American Archaeology and presented as the "Principles of Archaeological Ethics" (Lynott 1997; Little 2002). The existence of such ethical understandings within the broader field of archaeology has helped "prioritize and value the public meanings, interpretation, and rights of ownership that descendent communities and stakeholders assert over the archaeological record" (Castañeda & Matthews 2008: 3).

Cultural Resources Management

A new field of study was born as concern and preservation interests within the United States evolved after the turn of the 20th century. As result of the plethora of historic preservation laws and mandates, particularly those dating back to the 1960s, *Cultural Resources Management* (CRM), as has already been briefly mentioned, represents the field of professionals composed primarily of archaeologists and historians focused on compliance-oriented studies, impact identification, assessments, and mitigation efforts geared towards the identification, treatment, and protection of national, state, and local cultural resources and heritage (Watkins 2000; Neumann & Sanford 2001; King 2002 & 2004; Muckle 2006).

Tribes have managed all of their resources for thousands of years, something that indigenous peoples of this land had to do. Resources under the care of indigenous peoples were managed for personal, tribal, and political use. Tribes have effectively managed these resources to ensure stability within the tribe and to secure long, healthy livelihoods within their boundaries. Each tribe worked with one another and obeyed each boundary. The Agua Caliente Band of Cahuilla Indians (ACBCI) established its Tribal Historic Preservation Office in 2005 because of the growing need to protect the tribal natural and cultural resources on and off tribal lands. Tribes began developing a capacity for self-governance and protection of cultural resources in the 1970's with funding provided by the National

Park Service (NPS). Monies provided by the NPS are dedicated towards the development of programs aimed at the protection of, and to stop the loss of, Tribal cultural resources such as language, objects and sites (http://www.nps.gov/hps/tribal/index.htm).

Ethnography or Ethnographic Archaeology

The re-evaluation of self by the archaeological community over the past 20 years and the resultant shift towards a more inclusive approach inherently stressed the need for change within the archaeological process. The archaeological process could no longer be perceived as a noble quest of science above all else, where science is viewed as "a transcendent, objectivist good" one in which "universal heritage…must be known and preserved in the name of generalized humanity…" (Castañeda &Matthews 2008: 2). Because of the growth of such awareness pertaining to our collective understanding of the past and the many vested communities that hold value in this understanding, the archaeological process has adapted to include an ethnographic approach. According to the definition provided by Castañeda &Matthews, *ethnographic archaeology* represents "archaeological projects based in research and management of the past that have integrated ethnography into their core processes…" (2008: 5-6).

As an established discipline in and of itself, *ethnography* represents one of many social research approaches about which much has been published (Hammersley & Atkinson 2007; Murchison 2010). In a most concise fashion, J. Murchison succinctly defines *ethnography* as "the engaged, firsthand study of society and culture in action" (2010). Though this definition will be used for the purpose of the present research design, it need be noted that *ethnography* in essence "does not have a standard, well-defined meaning" due to its diverse and complex history (Hammersley & Atkinson 2007: 2). The ethnographic process is likewise understood to be a well-developed research strategy through which the ethnographer engages, directly or indirectly, with their research subjects to obtain data. A wide array of techniques can be used to collect ethnographic data, including interviews, the observation of actions or habits, the review of documentary evidence, structured scientific experimentation, and standard research methods, among others.

Ethnographic archaeology argues for the inclusion of "an ethnographic approach" into the archaeological process so as:

> *(1) to bring to light and into regular archaeological practice the diverse stakes and strategic social forces that establish archaeology as a viable and appropriate social concept and then (2) to reflect on how this archaeology-concept functions in specific sociocultural contexts, most especially in how it is employed by those invested in archaeological work (Castañeda & Matthews 2008: 15).*

Geoarchaeology

Yet another relatively young sub-discipline within archaeology is *geoarchaeology*, which is defined as a "new discipline…primarily concerned with the context in which archaeological remains are found," with the *context* understood as being geological concepts of "soils, sediments and landforms," and the role such concepts play in the formation processes of archaeological sites (Goldberg & Macphail 2006: 2; *cf.* Renfrew 1976: 2). As Goldberg & Macphail note, there are variances in the way geoarchaeological principles can be incorporated, ranging from a broader or regional landform level of analysis to a much more minutia-focused, microscale level (2006:2). The level at which geoarchaeological principles are applied to a study are dependent upon the availability of specialists, as well as the nature and scope of the project itself. The importance of geoarchaeological study is appropriately summarized by Goldberg & Macphail (2006), as cross-referenced from C. Renfrew (1976):

> *…geoarchaeology provides the ultimate context for all aspects of archaeology from understanding the position of a site in a landscape setting to a comprehension of the context of individual finds and features" (*Goldberg & Macphail 2006:3)

As is the case with the other sub-disciplines here discussed, *geoarchaeology* has become a firmly established specialization for which its own breadth of reference materials is available. A comprehensive discussion of this discipline is beyond the scope of the current research design. However, this brief introduction was necessary as some of this field's theoretical concepts will be incorporated into the orientation of this research design. Many publications are available for a more in-depth discussion of *geoarchaeology*, included among them are George R. Rapp and Christopher L. Hill (2006), Paul Goldberg & Richard I. Macphail (2006), Pollard (1999), and Colin Renfrew (1976).

Historical Archaeology

This term is most commonly used in North America to describe a specific subset of the archaeological community. Variation exists as to how exactly this subset is or should be defined (Hall & Silliman 2006: 1), though the most frequent definition of *historical archaeology* makes reference to those archaeologists who are particularly interested in the study of periods for which written records are available (Hall & Silliman 2006; Greene & Moore 2010). As Green & Moore state, "[h]istorical archaeologists usually possess a basic framework of dates and a general idea of the society of a particular period into which to fit their findings" (2010: 5). By another definition, *historical archaeology* represents an endeavor where archaeologists attempt to understand a "process rather than an era or a condition" through which modernity has been formed and "the way that the past is understood from the perspective of the present" (Hall & Silliman 2006: 2).

2.1.2 THEORETICAL APPROACH FOR THE CURRENT RESEARCH DESIGN

Many aspects of the above described theoretical concepts were selected and combined to develop the theoretical approach for the current research design. By taking into consideration some of the specific aspects of the applicable theoretical concepts, a single approach is developed and presented to help this research design achieve a primary goal: to serve as a guide for any future archaeological or cultural study conducted on the Reservation and TUA, and introduce possible venues through which the traditional Tribal knowledge of the Agua Caliente Band of Cahuilla Indians and "scientific" knowledge as obtained through the various fields of study outline above, can be incorporated. The creation of this research design is targeted for an applied audience, mostly composed of the Agua Caliente Tribal membership for whom cultural resources and resource protection have increased in importance, Cultural Resource Management practitioners or professionals, environmental professionals and planners, Agency representatives, and all others who may have an interest in the discussion of Tribal Cultural Resource Management, general cultural resource management and protection, archaeology, anthropology, or ethnography (among others).

For the purpose of this research design, and as introduced above, essential to a truly collaborative environment is the recognition of various perspectives and the encouragement of communication between the holders of these various views. In practice, *indigenous archaeology* and, to some degree *Public or "Community" Archaeology*, emphasizes the importance of a collaborative environment in the archaeological process (Atalay 2006). Especially for CRM, and more generally the environment protection process, the identification of the communities or "audiences" that may have a vested interest or opinion in the investigation or its outcome is already recognized as a necessary piece of the overall process (King 2009). The concept of collaboration is a central part of the theoretical approach for this research design.

Building upon collaboration, the next essential aspect to the theoretical approach for this research design is in the definition and recognition of what "cultural resource", as a term, encompasses. The technical definition of cultural resource as defined by the various federal, state and local-level regulations are recognized and include most prevalently, though in no way limited to, the National Historic Preservation Act of 1966 (NHPA), the National Environmental Policy Act of 1969 (NEPA), the Archaeological and Historical Preservation Act of 1974 (AHPA), American Indian Religious Freedom Act of 1978 (AIRF), the Archaeological Resources Protection Act of 1979 (ARPA), Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and California Environmental Quality Act (CEQA). It is beyond the scope of this research design to discuss in detail the regulatory frameworks potentially applicable to the Agua Caliente Reservation, TUA, and the broader Coachella Valley or Colorado Desert region. Extensive publications are available that

discusses this topic in detail among them being several publications by Thomas F. King (2000, 2003, 2004).

The theoretical approach argued here recognizes and works within these legal definitions, but provides an additional perspective. This research design attempts to establish that the term "cultural resource," when viewed from the non-archaeological community, has a meaning that extends beyond that which is covered in the regulations (Gonzalez *et al.* 2006; Watkins 2003; Wright 2004). Of central focus for this research design, are the alternative ways in which the indigenous community defines a cultural resource. The concept of perceiving a cultural resource as an entity whose preservation is not constrained by political or jurisdictional boundaries is one such example (Anyon 1991), as is the concept of extending the term to include a natural environment component or territory that is essential for the practice of cultural traditions or identity (Willow 2011; Gulliford 1992; Ferguson 1996). Such a perspective expands the understanding of what constitutes a cultural resource beyond just the artifact, feature, site, structure, building, or district, as otherwise defined in technical or legal parlance. Changes in regulatory language to acknowledge this expanded understanding have occurred, as is attested by the designation of the Traditional Cultural Property (TCP; Parker and King 1998, King 2003).

For the Agua Caliente Band of Cahuilla Indians, cultural tradition and the current practice of cultural tradition is, as is the case for all Native Americans, inextricably linked to the environment (Gulliford 1992; Confederated Salish & Kootenai Tribes. 1994a). Thus, the cultural interests of these communities often extend far beyond the established boundaries of the Reservation proper. This research design recognizes the TUA as the area encompassing such extended concepts of community cultural interests, particularly for the ACBCI. The inclusion of the TUA as an additional concept inevitably leads to the discussion and identification of the natural environment or natural resources and how that environment is used culturally. In order to better understand the environmental factors that may (or may not) make a natural landscape culturally important, this research design attempts to incorporate into its approach concepts common to regional-scale geoarchaeological investigation (Goldberg and Macphail 2006). It further advocates the use of theoretical *geoarchaeology* to understand the conditions and landscape within which populations existed, taking into consideration not only how geologic processes potentially influenced or molded prehistoric or historic-period use of the region, but to likewise understand the present-day, cultural use of the landscape.

The theoretical approach for this research design places much emphasis on the development of a Geomorphic History as derived from geo-archaeological study. This approach advocates looking at the geomorphology of the region of interest and the specific geomorphology of a particular project location, including this discussion in the investigation so as to better understand the potential for buried archaeological sites as well

as extant landscapes that may have present-day cultural uses or importance. Using an understanding of the geomorphology and the physical environment, the theoretical approach for this research design includes an attempt to relate the natural environment to known traditional use patterns of the present-day Agua Caliente Tribal Members and examine how geoarchaeological investigation may help increase our knowledge about the Cahuilla.

The inclusion of *geoarchaeology* to better understand the relationship between archaeological sites, the environment, and the potential factors that encourage or promote human utilization of an environment (both past and present) goes hand-in-hand with the need to understand the cultures that represent these populations. Therefore, the ethnographic process is equally important for the theoretical approach of this research design. Theoretical aspects of *ethnography* and *ethnoarchaeology* have been integrated into this research design, as the wealth of information offered by these studies gives much credibility to proposed explanations pertaining to the relationship of past peoples, the geophysical environment, and the exploitation of that environment. The implementation of *historical archaeological* theory is also important with regard to the further understanding about the Agua Caliente Band of Cahuilla Indians and the documentation of its history as a Tribe and a nation.

In summary, the theoretical approach advocated by this research design is one that is founded in the principles and practice of *CRM*, as combined with various theoretical aspects of such disciplines as *indigenous* and *public or "community" archaeology*, *geoarchaeology*, *ethnography* or *ethno-archaeology*, and *historical archaeology*. Archaeology, in the end, is not meant to benefit just the academic or scientific community, but must also benefit the communities whose cultures are being explored. It is hoped that the theoretical approach of this research design provides a base upon which a cooperative relationship can be achieved, through collaboration, where all communities or interested parties can benefit from the study of the past and move towards the preservation of this shared cultural heritage. The emphasis of this partnership is one founded on preservation. Though the reasons for CRM may differ, depending upon the perspective from which it is pursued, all efforts are ultimately embarked upon for the purpose of identification, documentation, protection, and preservation. As Ferguson notes: "[b]y establishing and building on cooperative relationships, archaeologists and Native Americans can be powerful allies in efforts to preserve archaeological resources from looting or development" (1996: 74).

Preservation, as a term, is also one that differs greatly depending upon one's perspective. For archaeologists and other academics, it is important to recognize and acknowledge that the scientific perspective of preservation is not limited to objects, structures, or tangible items that are indispensable "data" for the furtherance of our knowledge. As noted by Gulliford (1992):

Preservation for native peoples in America is about values and traditions and only secondarily about architecture. Tribal preservation is about a deep-seated sense of place and a relationship to the landscape that may reflect cultural patterns hundreds, if not thousands, of years old.

3 CULTURAL CONTEXT

3.1 ENVIRONMENTAL SETTING

As already stated, this research design is intended to serve as a guide for the Agua Caliente THPO and any future planners, archaeologists, or researchers that wish to initiate cultural resources studies within the Agua Caliente Indian Reservation or within the Agua Caliente TUA. The following setting provides a general introduction to the physiography and geology, as well as the flora and fauna, within three tiers or levels of focus: the regional level, the traditional use area-specific level, and the Agua Caliente Indian Reservation-specific level. Discussions relating to each tier, together, represent a graduated summary of the environmental setting and should provide a foundation for understanding the macro and micro-environment to which this research design applies. As such, it is necessary to delineate the area of interest, as is it important to provide a clear description of what environmental criteria are essential for the identification of "traditional use areas" for the Agua Caliente Band of Cahuilla Indians.

With this in mind, the environmental setting first presents an overview that introduces the physiography, geology, and the flora and fauna common to the Coachella Valley and the eastern slopes of the San Jacinto and Santa Rosa Mountains. Within this broad framework, a more pointed discussion will follow to clearly define the criteria that together constitute *Traditional Use Areas* for the Agua Caliente Band Tribe. This discussion will fuse together characteristics of the natural regional environment with traditional Tribal knowledge, as obtained through coordination with the Agua Caliente THPO and as provided to the THPO by Tribal Elders and Members. Lastly, but by no means least, will be the discussion of the environmental setting specific to the Agua Caliente Indian Reservation and Tribal lands that exist outside the boundary of the Reservation. The main references sourced for the following environmental setting include the *Tribal Habitat Conservation Plan* (Helix Environmental 2010), the *Ecological Subregions of California* (Miles & Goudey 1998), and *Introduction to the Geology of Southern California and it's Native Plants* (Hall 2007). Other sources reviewed include appropriate city (i.e. Palm Springs or Palm Desert, Rancho Mirage, and Cathedral City) and county (Riverside) general plan documents.

3.1.1 PHYSIOGRAPHY

The physiographic region for which this research design has been prepared takes into consideration the broader regional study area, which is situated predominantly within the Coachella Valley as well as the eastern slopes of the San Jacinto and the Santa Rosa Mountains. The majority of the area being discussed is located within the low-lying desert valleys of the Colorado Desert, occupying the northern Salton Trough geomorphic province, and the mountainous canyons of the easternmost extent of the Peninsular Ranges (Hall 2007). The general area is characterized by gently sloping alluvial fans that emanate from the mountains to the west. Characteristic of the San Jacinto Mountains are a series of dramatic drainage systems containing gullies and washes that primarily run west to east, originating in 10,000+ foot peaks and descending in an easterly direction towards the Coachella Valley floor. According to Miles & Goudey (1998) the geomorphology of the mountainous areas, within which the Agua Caliente Indian Reservation is situated, includes moderately steep to steep mountains with narrow to rounded summits, and both narrow canyons and broad valleys along with some areas, albeit small, of rolling plateau.

3.1.2 GEOLOGY

Miles & Goudey (1998) suggest that most of the near-surface material is comprised of Holocene and Pleistocene-age alluvial fan deposits. These deposits are expected to consist primarily of dense granular material (sand and gravel), though more loose and finer-grained materials may be present within the washes. The smaller mountain valleys contain Pleistocene to Recent alluvial fans, and the main geomorphic processes active in these areas consist of mass wasting and fluvial erosion and deposition (Miles & Goudey 1998: Subsection M262Bp). The Coachella Valley proper consists of quaternary alluvial, lacustrine, and eolian deposits scattered across mostly gentle to moderately sloped alluvial fans that spread away from nearby level basin floors and dry lake beds (Miles & Goudey 1998: Subsection 322Ca). Dominant geomorphic processes occurring in the valley include fluvial erosion and deposition as well as eolian deflation and deposition of marine and non-marine sediments. Areas along the eastern flank of the Santa Rosa Range consist mostly of deeply dissected Tertiary fanglomerates composed of Mesozoic granitic rock that has eroded from the range. Rhyolites, tuffs, and cherts associated with the Tertiary uplift of the fault block also exist in the Project area. The soils are thin, gravelly sand with small amounts of loam. Many of the alluvial slopes have cultural remnants and should be surveyed at a minimum. There are trails, irrigations features and house depressions along with cultural artifacts. Likewise the appearance of population settlements throughout prehistoric and ethnographic times is linked to the surfacing of natural springs; wherever such springs surfaced, there were temporary camps or permanent villages (Bean 1972: 46; Bean *et al*., 1978: 26, *cf.* Barrows 1900: 26-27).

3.1.3 FLORA AND FAUNA

Since flora and fauna equally applies to both the broad regional area of interest identified for the current research design and for the Agua Caliente Indian Reservation, only a broad regional overview of plant and animal communities will be discussed here. This discussion will cover a range of flora and fauna communities because the regional area of interest covers both the low-lying desert valleys of the Colorado Desert and the "desert slopes" of the Peninsular Ranges, specifically the lower slopes of the San Jacinto and Santa Rosa Mountains (Miles & Goudey 1998). Traditional tribal names for flora and fauna, where available, have been provided along with their common English names in Section 3.1.5.

Vegetation throughout the Coachella Valley includes a combination of native grasslands, shrublands, and some forests and woodlands, as well as some exotic, non-native species commonly found in developed or urban areas. The dominant vegetation communities include Creosote bush and white bursage series, with Allscale series, Mixed salt bush series, Mesquite series, Ocotillo series, and Fan palm series (Miles & Goudey 1998: Section 322C; Rosiere 2009). Fauna known to inhabit the valley bottoms may also cross into the mountains and canyons and include common as well as protected species. Among the fauna present are desert bighorn sheep, desert kit fox, coyote, spotted skunk, black-tailed jackrabbit, ground squirrels, kangaroo rat, white footed mouse, eagles and hawks, owls, quail, white-winged dove, roadrunners, finches, warblers and orioles, as well as a diverse variety of other birds and reptiles (Miles & Goudey 1998: Section 322C). The *Tribal Habitat Conservation Plan* also lists specific fauna known to the valley and covered by the plan, such as the Coachella Valley fringe-toed lizard, flat-tailed horned lizard, Palm Springs (Coachella Valley round-tailed) ground squirrel, Palm Springs pocket mouse, Crissal thrasher, Le Conte's thrasher, Coachella giant sand-treader cricket, Coachella Valley Jerusalem cricket, Coachella Valley milk-vetch, and the little San Bernardino Mountains gilia (Helix Environmental 2010:1-3).

Vegetation on the desert slopes of the Peninsular Ranges varies slightly from that found in the low-lying valleys. Creosote bush series and Creosote bush – white bursage series remain the dominant vegetation community, found with Chamise series and Red shank – chamise series, Mixed chaparral shrublands, Singleleaf pinyon series, and California juniper series. Fauna common to the Desert Slopes subregion of the Peninsular Range, which includes the Santa Rosa and San Jacinto Mountains, include mule deer, pronghorn, bighorn sheep, coyote, bobcat, mountain lion, ground squirrel, kangaroo rat, as well as hawks and eagles, owls, quail, mourning dove, mockingbird, jays, gulls, herons, crows, finches and sparrows, along with several "species of concern" (Miles & Goudey 1998: Section 322C). These species of concern include the cactus wren, California gnatcatcher, Bell's vireo, foothill and mountain yellow-legged frog, orange-throated whiptail, and the California mountain kingsnake, as well as the Southwestern willow flycatcher, Summer tanager, Yellow-breasted chat, Yellow warbler, Southern yellow bat, Desert tortoise, Burrowing owl,

and the Triple-ribbed milk-vetch (Miles & Goudey 1998: Section 322C; Helix Environmental 2010:1-3).

3.1.4 AGUA CALIENTE INDIAN RESERVATION

The lineages of the Agua Caliente Band of Cahuilla Indians have been here for thousands of years. The TUA of the Tribe is grand and includes every inch of the valley and the mountains that surround it. Although the Reservation was established in 1876 a continual influx of people in and around the Reservation resulted in the growth of Coachella Valley desert cities, expanding their jurisdictions enveloping the Tribes' ancestral lands. Today, there are three cities within the Agua Caliente Indian Reservation: Palm Springs, Cathedral City and Rancho Mirage. The incorporation of cities has allowed up to six generations of families to be raised among the Cahuilla, creating a sense of pride for their local history and resources, thereby establishing a desire to protect and preserve such resources. The neighboring community is embraced in co-managing the natural resources and some cultural resources with the Tribe. The Agua Caliente Tribe maintains working relationships with the Morongo, Torres Martinez, Santa Rosa communities, and others.

Physically, the Agua Caliente Indian Reservation represents "a checkerboard pattern on 51 of the 108 sections of land" totaling approximately 31,420 acres located within the Coachella Valley, Riverside County (CA); a combination of "Tribal trust land, allotted trust land, and fee land" are included amongst the landholdings of the Agua Caliente Indian Reservation and within these landholdings are found a scattering of public and private lands which come under various federal, state and local agencies (Helix Environmental 2010:1-1). Along with such landholdings, the acquisition of presently off-Reservation land is an on-going process and several "Target Acquisition Areas" have been identified by the Tribe, as shown in the *Tribal Habitat Conservation Plan* (Helix Environmental 2010: 1-6, Figure 1 and Figure 2). Likewise, an active process of exchange exists between the Bureau of Land Management (BLM) and the Tribe, the result of which may include the acquisition or exchange of specified lands, referred to as exchange lands, between or to either party (Helix Environmental 2010: 1-6).

3.1.5 TRADITIONAL USE AREAS

The term "traditional use area," as referenced in this research design, incorporates two particular localities: the broader Agua Caliente TUA and the more generalized, or localized, traditional use areas outside the TUA where gathering, hunting, or other such cultural activities of the Cahuilla may or may have occurred. The broader Cahuilla use area represents a wide swath of territories and environments recognized by the ACBCI or as described in previous ethnographic documentation and research, which may be considered within the area of interest of the Agua Caliente Tribe. Ethnographic accounts have defined a

generalized spatial territory for the Cahuilla, based upon an understanding of Cahuilla history and environmental habitat (Kroeber 1976a; Boulé 1992; Bean 1972; Bean *et al.* 1991). Kroeber describes the territory of the Cahuilla as "somewhat irregular" though definable "as the inland basin between the San Bernardino Range and the range extending southward from Mount San Jacinto; with a few spillings over into the headwaters of coast drainage" (1976a:693). Within this territory, Kroeber describes three distinct divisions of which the "Desert Cahuilla" are of direct relevance to the current research design. The Desert Cahuilla occupied an area beginning in the south at or just north of the Salton Sea and spanning northward towards the Gorgonio Pass, where the Western or Pass Cahuilla settled (1976a: 694).

Dr. Lowell Bean identified particular aspects of the Cahuilla ecosystem that have been directly associated with the Cahuilla culture, among which are "topography, life zones and associations, temperature, wind, water resources, drainage patterns, faulting, drought, and fire" (Bean 1972: 23). Nevertheless, Dr. Bean also noted the difficulty with which one is faced when attempting to more clearly delineate the Cahuilla territory. Areas that could be identified as representing boundary indicators…

> *…include the summits of the San Bernardino and Chocolate mountain ranges to the north; the area approximate to Borrego Springs to the south; a portion of the Colorado Desert west of the Orocopia Mountains; and the Colorado River to the east; and the San Jacinto Plain near Riverside; and the eastern slopes of the Palomar Mountains to the west* (Bean 1972: 24).

Traditional knowledge of the natural environment can also help to identify the ACBCI and broader Cahuilla use areas. The identification of key vegetal and other materials that are of importance to the Cahuilla, and specifically the Agua Caliente, provides a general guide to the association of the present-day environment within the TUA. Some scholarly or academic publications are likewise available, discussing the natural environment important to the Cahuilla, foremost among them *Temalpakh: Cahuilla Indian Knowledge and Usage of Plants* (Bean and Saubel 1972). Included among the flora commonly contained within the TUA are *Atukal* (Cresote), *Tevat* (Pinyon Pine), *Henily* (Red Shank), *Yuyily* (Juniper), *Maul* (Palm), *Utusah* (Ocotillo), *Kupanish* (Barrel Cactus), *Qwinyily* (Black Oak), *Ily* (Mesquite), and *Tutut* (Morman Tea); the main staple food was *Ily* (Mesquite). Animals common to the TUA include: *Pa'at* (Bighorn), *Hunwet* (Bear), *Isily* (Coyote), *Tukut* (Bobcat), *Tukat* (Mountain Lion), *Aswet* (Golden Eagle), *Sukat* (Deer), *Moot* (Horned Owl), and *Yongavish* (Condor). These animals are all considered to be the most sacred animals of the Cahuilla. It is often the role or position that many of these animals have in Cahuilla oral tradition that has secured their sacrosanctity. An 1888 ethnographic account by Stephen Bowers provides a good example of this connective sacrosanctity, as cross-referenced by P. J. Wilke. In this account, the Cahuilla have a "superstitious regard for the coyote" due to the

oral tradition that tells of the transplantation of the mesquite bean from the mountains to the desert valley by the coyote, after the drying-out of the ancient sea (Wilke 1975: 12).

The *Aswet* is the most sacred because it flies near sky where the Creator lives. *Isily* represents the Coyote Moiety and *Tukut* represents the Bobcat moiety. According to Cahuilla tradition, *Mukat*, the creator, separated the two groups and established a system to help the people. A person from one moiety must not marry within the same moiety, but outside the moiety. An *isily* cannot marry another *isily* but can marry a *tukut*, and vice versa. In addition, this helps the people stratify their resources (Bean 1972), as one group with few resources can go to another family group in a different area to ask for food. Children were often married into neighboring tribes and groups with access to various resources that were not available to the child's tribe. As a result a group that may have limited resources could go to the family into which their child married and receive resources unavailable to them.

3.2 PREHISTORIC PERIOD

Despite more than 80 years of archaeological investigation, our understanding of Colorado Desert prehistory still relies heavily on comparisons with adjacent regions. In fact, the basic culture history of the region has not changed dramatically since pioneering archaeologist Malcolm Rogers (1939, 1945, 1966) published his initial impressions of the chronology and cultural development of the desert. This state of affairs is largely attributable to the lack of sufficient numbers of stratified subsurface sites in the region, since many desert sites are entirely superficial (Schaefer 1994a, 1994b). Additionally, prehistoric use of the Colorado Desert was apparently episodic, with long periods of low-intensity use during particularly arid times. Nevertheless, ongoing work continues to sharpen our comprehension of the region. This discussion largely follows Crabtree's (1980) chronological framework with further elaboration of cultural development from Schaefer (1994b) and others.

The overall trend of environmental change in the Colorado Desert has been one of fluctuation from generally cool and wet conditions to significantly warmer and drier conditions such as those that exist today. Those temperature and moisture variations have significantly affected the distribution and subsistence practices of prehistoric populations in the Colorado Desert. Additionally, changes in the course of the Colorado River resulted in periodic filling and desiccation of ancient Lake Cahuilla. This had a significant impact on resource availability, which in turn influenced population movement, settlement, and subsistence patterns within the region surrounding Palm Springs and the Coachella Valley.

The shifting course of the Colorado River influenced regional prehistory throughout the Holocene as it periodically inundated the Salton Trough and created Lake Cahuilla (Weide 1976; Schaefer and Laylander 2007). Several million years ago, waters of the Gulf of

California extended as far west as the San Gorgonio Pass. During that time the Colorado River scoured out the Grand Canyon, carrying with it sand and debris, forming a delta bar, cutting off the Salton Trough from its westward-extension into the Gulf of California. Over subsequent millennia, the Colorado River periodically broke through this barrier during heavy rainfall/flooding episodes, refilling the trough and creating fresh water lakes. The most recent research indicates that no fewer than three cycles of inundation and desiccation occurred between AD 1200 and 1600 (Schaefer and Laylander 2007). The periods of inundation for Lake Cahuilla before then are poorly known. The largest lake was approximately 35 miles wide and nearly 320 ft. deep. These events increased freshwater resources and created areas with a more fertile environment able to sustain larger populations. The filling and receding shorelines created an environment that cyclically fluctuated. Native people cleverly adapted to this environment by subsisting on a variety of resources found throughout the region (Goodman and Mouriquand 2004).

The prevailing characteristics of the natural environment of the Colorado Desert have set notable constraints on how land could be used by native populations. Though past and current scientific investigation places initial settlement of the region at 10,000 to 12,000 years before present, it is a common belief amongst members of the Agua Caliente Band of Cahuilla Indians that their association with the land spans beyond time memorial. Archaeological and anthropological investigations indicate that, over the past roughly 12,000 years of human activity within the Colorado Desert, the region has witnessed significant environmental change. Since environmental conditions can significantly influence patterns of human settlement, subsistence, and technology, an understanding of environmental change is necessary to any reconstruction of regional human history.

Based on archaeological data, the first widely accepted human use of the Colorado Desert began at the end of the Pleistocene, between 12,000 and 10,000 years ago. The earliest inhabitants of the region were highly mobile hunter-gatherers exploiting a variety of plants and animals. The settlement patterns of the Late Pleistocene and Early Holocene inhabitants suggest that they preferred to live along the shores of prehistoric lakes and on mesas near perennial washes (Schaefer and Laylander 2007). Roughly 7,000 years ago began a time of extremely arid conditions known as the Altithermal period (Antevs 1955) when local pluvial lakes began to evaporate, and many streams and waterways no longer flowed (Davis 1982). Flora and fauna in the surrounding region achieved virtually modern composition and distribution, with creosotic biotic communities becoming established ca. 7,000 years ago or soon thereafter (Sutton *et al.* 2007:231). Rivers and lakes disappeared and colonization by thermophilous shrubs began (Basgall & Hall 1992). Subsequently, native populations moved to or frequented areas with sustainable water supplies (Justice 2002). Settlement in the region shifted to the Colorado River and to perennial springs and seeps in the mountains and valley floors (Pendleton *et al.* 1986).

A period of relative environmental instability, marked by moderately cooler and wetter conditions disrupted by punctuated events of climatic change, began about 5,000 years ago and extended until about 1,100 A.D. (Sutton *et al.* 2007; Sutton 1996). A moister climatic era, which has been referred to as the Little Pluvial, began around 4,000 years ago, and the Medieval Climatic Anomaly (MCA), between ca. A.D. 800 and A.D. 1350, was a time of warmer temperatures and more arid conditions (Sutton *et al.* 2007). During the MCA, fundamental climatic, hydrologic, and floristic patterns came together into the environment that now characterizes the Colorado and Mojave Deserts. Woodrat midden studies show that at least in some areas vegetation composition was essentially the same as that which is found in those areas today, but other data indicate that local, regional, and temporal variability of the effects of the MCA on the environment were considerable (Basgall 2004). The Little Ice Age followed the MCA, which occurred between A.D. 1400 and A.D. 1875 (Sutton *et al.* 2007:233). It was a period of cooler temperatures and greater precipitation that brought about an end to the extended drought conditions that characterized the MCA and fostered a gradual re-expansion of juniper woodlands (Sutton *et al.* 2007).

3.2.1 Regional Chronological Setting

Archaeological chronologies have been established by scholars in an attempt to better understand certain characteristics shared by a culture within a given time frame, by dividing the past into a series of periods. Although such divisions are not fixed, they provide a framework to organize the past and provide time placement for cultural constituents (Chartkoff *et al.* 1984). Basic chronological data is critical for the study of culture change, including the evolution of settlement systems and the changing patterns they reflect. Chronological data is also critical for defining different temporal components within regions and within sites (Smith *et al.* 2002). Several chronological units have been defined for this region during the prehistoric period, including the Protohistoric, Saratoga Springs, Gypsum, Pinto, and the Lake Mojave (Warren 1984, Warren and Crabtree 1986, *cf.* LSA 2000: 4.6-3; Sutton et al. 2007; Moratto, 1984). Each of these units is represented by the presence or absence of key diagnostic artifacts and features that have been uncovered and analyzed through past archaeological investigation and study such as specific projectile-point forms, ceramics, groundstone, faunal remains, and mortuary practices. A detailed discussion of these chronological units, including the discussion of key cultural indicators and occupational patterns can be found in LSA 2000, Moratto 1984, and Sutton *et al.* 2007, among others.

Cultural constituents of past indigenous groups are best viewed as eras of current methods of manufacture, available materials, and type of resources available for exploitation. Culture adapts as the environment changes, which can be seen through the artifacts variability, and which is often verified through ethnographic accounts. Assigning precise timelines is fraught with valid debatable points. For example, Malcolm Rogers conducted

the most extensive archaeological survey and report of the Colorado Desert in the 1920s (Weide 1976). His theories on the timeframes for many of the sites he found are uncertain because most of the cultural material is non-stratified surface

Table 3.2-1. Colorado Desert Chronologies

Date	Rogers' (1966) sequence for the Central Aspect	Warren's (1984) chronology for the Mojave Desert	Sutton's (1996) update of Warren's (1984) chronology	Hall's (2000) sequence for the Mojave Desert	Schaefer's (1994a) sequence for the Colorado Desert	A second sequence for the Colorado Desert (Altschul et al. 1994)	A second version of Rogers' cultural sequence (Weide 1976)	Weide's (1976) chronology for the Yuha Desert	Sequence for the Indian Hill Rockshelter site (McDonald 1992)
1850	Paiute and Mojave	Shoshonean / Protohistoric	Late Prehistoric	Tecopa	Late Prehistoric	Patayan I-III	Yuman I-III	Increased population growth	Late Prehistoric
1500	Prehistoric Yuman and Shoshonean Groups								
1000		Saratoga Springs	Rose Springs	Saratoga				Very little archaeological remains, low population densities	Sporadic occupation
500 AD	Basketmaker III and Pueblo II	Gypsum	Gypsum	Newberry	Late Archaic	Late Archaic	Amargosa		Early Period II
0 BC	Amargosa								
1000									
2000		Pinto	Pinto	?	Early Archaic		Pinto		Early Period I
3000				Pinto					
4000						Early Archaic			?
5000	?	Lake Mojave	Lake Mojave	Lake Mojave			San Dieguito		
6000					Paleoindian				
7000	San Dieguito					Paleo-indian		San Dieguito	
8000		?	Paleoindian	?					
9000	?					?		Pre-projectile point	
10000							Pre-projectile point		
11000			?		?				
12000									

remains, and at that time the artifact chronology was in the early stages of development (Rogers 1939). Several sites recorded have no artifact assemblage associated with them; they are merely cleared circles of about six feet in diameter and are sometimes defined by a low wall around the perimeter. Rogers interpreted these sites as "temporary bedding platforms." These bedding platform features and other sites containing artifact assemblages of heavily patinated crude tools were the basis of Rogers's suggestion that they were associated with a pre-projectile point culture (Pre-Paleoindian period). The absence of dateable material makes this hypothesis inconclusive.

Aside from the disputed Pre-Paleoindian period, archaeological research in southern California over the past century has resulted in the development of a temporal scheme for regional prehistory that is generally accepted by the archaeological community (Moratto 1984). The temporal periods include the Paleoindian period, 12,000 to 7,000 B.P.; the Archaic period, beginning between 8,000 and 7,000 B.P.; and (transitioning to) the Late Prehistoric period at approximately 3,000 B.P. Most local chronologies invoke an Intermediate Period between the Archaic and Late Prehistoric.

The literature referenced has not clearly defined this Intermediate Period, other than it is a period between 500 B.C. to 500 A.D. that has been presented as an era that witnessed the emergence of agricultural communities in the Southwest (re: Basketmaker)(Justice 2002). Although specific dates are given, the beginning and end dates for each chronologic period are not static because technological innovations occurred at different times within this region.For example, the introduction of the bow and arrow closely coincided with the introduction of pottery, but their introduction does not appear to have occurred simultaneously throughout the region (Moratto 1984). Different interpretations of chronologies of the Colorado Desert posed by several researchers in the area are located in Table 3.2-1.

3.2.2 PALEOINDIAN PERIOD: SAN DIEGUITO (10,000–5,000 B.C.)

The period of human culture in North American commonly referred to as Paleoindian occurred from ca. 10000 – 6000 cal. B.C. (Martinez *et al.* 2008) therefore spanning the Late Pleistocene and Early Holocene. The start of the Paleoindian period is marked by increased rainfall and cooler temperatures that resulted in the formation of deep pluvial lakes and marshes in interior desert regions and offered a multitude of subsistence options. As temperatures increased around 9000 B.C. the lakes began to recede (Moratto 1984), however this recession was gradual and the pluvial lake environment remained in existence for several millennia.

Subsistence practices during this time centered around procuring foods and materials based on the plants and animals that lived around the lakes (Moratto 1984). Marshes in particular offered a variety of plants with edible seeds, roots, and stems. This habitat provided frogs, turtles, fish, and water rats and attracted ducks and other waterfowl that provided meat and eggs. The tool kit for this period is characterized by a flaked stone industry. It is typically defined by sites containing fluted points (Clovis and Folsom) that initially referred to as the Western Pluvial Lakes Tradition. The projectile point types tend to be large, skillfully worked, and fluted. Such points would have been hafted to a spear and launched with an atlatl (throwing stick).

The evidence for human presence in the Colorado Desert in the Late Pleistocene and Early Holocene is scarce. This lack of evidence is in marked contrast to well documented occupations in the regions surrounding Agua Caliente, including the Mojave Desert to the north, areas adjacent to ancient Lake Cahuilla to the east and south, and coastal southern California to the west (Schaefer and Laylander 2007). Circumstances such as the ephemeral nature of settlement during the period, the instability of landforms, or sampling bias of research locations may explain this lack of evidence rather than an actual gap in occupation.

The earliest evidence of human occupation in the region surrounding the Agua Caliente Indian Reservation is attributed to the Clovis culture. Although Clovis sites have not yet been reported in the Colorado Desert, accounts of proposed Paleoindian sites have been reported near the western and southern shorelines of ancient Lake Cahuilla. The assemblages of these sites exhibit a flaked-stone industry with an extensive number of tool forms, including ovate bifaces, chipped stone crescents (called amulets by Rogers), drills, cleavers, pulping planes, and keeled scrapers (Rogers 1939). Milling tools are conspicuously absent from these sites, implying that hard seeds were not included in the diet (Moratto 1984).

The Clovis (ca. 10000 – 8000 cal B.C.) is the only cultural complex that has been confidently dated to the late Pleistocene in the region north of the Agua Caliente Indian Reservation, in the Mojave Desert (Sutton et al. 2007); though proponents of an earlier pre-Clovis occupation continue to argue their case. Considering the growing body of evidence for a pre-Clovis occupation in the Americas and in the Mojave Desert, it seems that the possibility of such an occupation cannot be entirely discounted but the archaeological community remains largely unconvinced (Martinez et al. 2008; Sutton et al. 2007). Fluted points, the characteristic artifact of the Clovis complex, have been recovered from an increasing, but rare, number of locales. They have most often been found in surface contexts, making the exact chronological position of fluted point forms in the Mojave Desert less clear due to the lack of reliable carbon dates. Based on this sparse evidence, it can only be said that groups in the Mojave Desert at the terminal Pleistocene probably had

relatively small populations, were highly mobile, and lived in small, temporary camps near permanent water sources (Sutton et al. 2007:234).

Currently most archaeologists identify the San Dieguito complex as the earliest use of the Colorado Desert during the Pleistocene–Holocene transition. Rogers (1939) defined this cultural complex based on archaeological surveys of southern California coastal and desert regions conducted in the 1930s. San Dieguito materials are most common around now-dry inland lakes and on old desert terraces, but they have also been found at Ventana Cave in southern Arizona, and along the California coast, where they were first documented at the Harris Site (Rogers 1966; Warren 1966). Based on limited material evidence, Rogers inferred that San Dieguito subsistence was focused on highly ranked food resources, particularly large game, although small mammals were also taken. This hunting-focused subsistence strategy, in turn, was thought to have encouraged a pattern of relatively high residential mobility.

The material culture associated with the San Dieguito complex consists entirely of flaked stone tools such as choppers, scrapers, blades, projectile points, and distinctive crescent-shaped items interpreted as amulets (Rogers 1939, 1966; Warren 1966). The lack of millingstone implements has long been viewed as evidence that San Dieguito peoples made little use of plant foods, particularly seed plants that require pounding and grinding. Lorann Pendelton (1984), though, observes that ethnographies of Colorado Desert peoples mention the use of wooden mortars and pestles for the processing of wild mesquite. If similar wooden milling implements were used by San Dieguito peoples, they have not survived in the archaeological record.

Beginning with Rogers, archaeologists have attempted to assign cultural materials to the San Dieguito complex based upon the extent of desert-varnish on rock artifacts, and the degree to which artifacts are embedded in the ancient desert pavements (e.g. Schaefer 1985). Based on these measures, various cleared circles, trails, and geoglyphs have traditionally been included within the San Dieguito complex. These assignments, however, are no longer secure, as both patination and embeddedness have been demonstrated to be unreliable for cross-dating purposes (Liu and Broeker 2000, McGuire and Schiffer 1982; see also Mitchell 1989). Further, in the case of trails, many were used over multiple generations, often by multiple cultural and linguistic groups. In fact, most of the major routes through southern California deserts and mountain passes used today by modern highways (e.g., I-10 and Interstate 15) follow ethnohistorically documented Native American trails.

Despite decades of scholarly research, dating the San Dieguito complex continues to be problematic (Love and Dahdul 2002; Schaefer 1994b). Very little datable material is preserved at most San Dieguito sites, and sites in desert regions are often situated on

deflated desert pavements where extremely old materials lie side-by-side with modern trash. The related Lake Mojave complex, found in the Mojave Desert to the north, is thought to date to between 10,000 and 5,000 B.C. (Warren and Crabtree 1986). More recent work suggests a slightly earlier terminal date of around 6,000 B.C. for the Lake Mojave Complex (Schroth 1994). If the Lake Mojave and San Dieguito complexes are contemporaneous, then this highly mobile, hunting-focused use of the land came to a close early in the Holocene as ancient pluvial lakes contracted and large mammals became scarce. Alternatively, based on more recent data some researchers have come to question that association between Lake Mojave Complex sites and the shores of now-dry lakes. Currently available settlement data seem to suggest that the apparent association between lacustrine habitats and Lake Mojave Complex sites is biased by differential preservation of older sediments (Basgall & Hall 1992; Basgall 2004). The Pleistocene/Holocene transition was one of climatic oscillations that would have led to environmental instability, requiring extensive monitoring of the distribution and productivity of available resource patches and greater mobility to exploit those patches (Sutton et al. 2007). Current data now seems to suggest a pattern more consistent with generalized foragers where human occupation was attracted by rich resource patches in a variety of environmental situations (Sutton et al. 2007).

3.2.3 Archaic Period: Pinto and Amargosa Complexes (5,000 B.C.–A.D. 500)

The Archaic period in North American prehistory is characterized by the emergence of several distinctive regional adaptations to varying local conditions. In the western deserts, the Archaic spans the time from the end of cooler and wetter climatic conditions of the early Holocene, at around 5,000 B.C., to the introduction of pottery and bow-and-arrow technology, around A.D. 500 (Antevs 1955; Grayson 1993; Van Devender and Spaulding 1979). Regional populations were generally expanding, leading to a diversification and intensification of subsistence activities, and regional trade and interaction networks were established. Ground stone tools, largely absent in the Paleoindian period, became widespread during the Archaic.

In the southern California deserts, the best-known regional culture complexes of the Archaic period are the Gypsum, Pinto, Elko, and Amargosa, each defined by recognizably distinct projectile point types. Within the Colorado Desert, the early facet of the Archaic period (ca, 5,000–1,500 B.C.) is often subsumed under the Pinto complex (Crabtree 1980; Rogers 1939), although virtually no open-air desert sites have components dated to this time. The later facet of the Archaic period (ca. 1,500 B.C.–A.D. 500), is associated with the Amargosa complex in the Colorado Desert, following Rogers' (1939, 1966) nomenclature. In contrast with the general pattern of population expansion during the Archaic period, there is a dearth of evidence of Archaic occupation in the Colorado Desert (Schaefer 1994b; Weide 1976). During the early Archaic, the Colorado Desert appears virtually abandoned on the basis of current data. This absence of Archaic occupation on the desert is a key

regional research issue (Schaefer 1994b). Due to the scarcity of securely dated Archaic sites in the Colorado Desert, developments within the Archaic must be inferred from the development trajectories of adjacent areas.

Although few open-air sites date to the Archaic, rockshelter deposits at Indian Hill Rockshelter, in Anza-Borrego Desert State Park (McDonald 1992; Wilke *et al.* 1986), and at Tahquitz Canyon near Palm Springs (Schaefer 1994b) contain late Archaic components below more recent materials. These shelter sites lie south and west of the Agua Caliente Indian Reservation, containing distinctive dart-sized projectile points, ground stone implements, and rock-lined cache pits. At Indian Hill Rockshelter, McDonald (1992) also uncovered inhumations. One of these is radiocarbon dated to 4,070 ± 100 radiocarbon years before present (RCYBP). Unlike later lower Colorado River burials, these are not cremations. Several other inhumations associated with cairns may also date to the late Archaic (Schaefer 1994b). The materials at the rockshelter sites and others outside of the Colorado Desert suggest that the Archaic period inhabitants of southern California were "diversified hunters and gatherers" who focused increasingly on processing and storing seed and nut foods, and who relied on "mobility" and social "flexibility of group size" to exploit the seasonally variable natural resources of their ranges (Schaefer 1994b).

In regions in the Mojave Desert to the north of the Agua Caliente Indian Reservation, the primary cultural complex of the Middle Holocene is the Pinto. Pinto Complex assemblages are marked by stemmed, indented-base points but in many ways there appears to be broad continuity between the Lake Mojave Pinto Complexes. It was originally thought that the Lake Mojave Complex predated the Pinto Complex in the Mojave, but additional radiometric dates and hydration profiles collected over the past 20 years seem to indicate that the Lake Mojave and Pinto complexes overlapped in the latter part of the Early Holocene. That leads researchers today to suspect that multiple culturally distinct populations may have occupied the Mojave Desert during this period (Sutton *et al.* 2007).

Artifact assemblages dated to the Middle Holocene seem to also reflect a transition to a wider diet breadth with greater reliance on vegetal resources. The primary difference between the Lake Mojave and Pinto Complexes is the greater prevalence of ground stone implements among Pinto assemblages. From that it now seems that broader-spectrum economies with intensive levels of plant processing began by ca. 7000 cal. B.C. (Sutton *et al.* 2007:238).

3.2.4 Late Prehistoric/Protohistoric Period: Patayan Complex (A.D. 500–ca. A.D. 1850)

The Patayan complex spans the Late Prehistoric and Protohistoric periods, and dates from approximately A.D. 500 until the American appearance into the area at the turn of the 19th

century. The Protohistoric period encompasses a protracted 300-year period of sporadic European exploration and colonization during which aboriginal lifeways continued in the southern California deserts. There is a clear correspondence between the geographical distribution of archaeologically recognizable Patayan cultural materials and the historically documented territories of Yuman-speaking peoples: the Quechan, Mohave, Cocopah, Paipai, Yavapai, Havasupai, and others. Thus, the archaeological Patayan complex is often taken to be directly ancestral to the ethnographic Yuman cultures of the region. Nevertheless, Jerry Schaefer reminds us that non-Yuman groups, such as the Cahuilla and the Chemehuevi, were also active participants in this cultural complex: "the prehistoric Patayan world was multicultural and inter-cultural, representing many dynamic adaptive strategies and social systems but sharing common elements of technology, material culture, and ideology" (Schaefer 1994b).

The Patayan complex is characterized by marked changes in the artifact assemblage, economic system, and settlement patterns of the region. Perhaps the most recognizable change from an archaeological perspective was the introduction of paddle-and-anvil pottery, either from Mexico or from the Ancestral Pueblo groups of the U.S. Southwest (Rogers 1945; Schaefer 2003; Schroeder 1975, 1979). During this time, floodplain horticulture, featuring maize, beans, squash, and other crops, was similarly introduced from the south and east. Arable land along the lower Colorado River came under cultivation, as did the banks of the New and Alamo Rivers in Imperial Valley. The Colorado Desert lay on the prehistoric frontier of the westward expansion of agriculturally based subsistence systems to the west.

Bow-and-arrow technology was also introduced at this time, possibly from desert hunter-gatherer groups moving in from the west and north. Smaller, arrow-sized projectile point types of the Cottonwood Triangular and Desert Side-notched series are common. The Cottonwood series projectile points likely predate the Desert Side-notched types, and probably predate the introduction of pottery manufacture in the region. Concomitant with these dramatic subsistence and technology changes were several, apparently related, ceremonial and religious changes. During the Late period, burial practices shifted from inhumations to cremations and partial cremations. Artistic expression on rock (petroglyphs) and land (intaglios) flourishes at this time in association with expanding trade and trail networks, and increasingly elaborate kinship systems tying together extensive territories (McGuire and Schiffer 1982). Warfare likely also increased at this time, and was well documented in the Protohistoric and Historical periods.

By all accounts, the vast majority of the archaeological materials in the Colorado Desert, and on the Palo Verde Mesa particularly, date to the Late Prehistoric and Protohistoric periods (e.g., Rogers 1945; Schaefer 1994b, 2003). Most sites in the area consist of ceramic sherds and a limited variety of stone tools and tool-making debris. A recent detailed study

by Flenniken and Spencer (2001) suggests that most of the lithic reduction (stone-tool making) in the region of interest was directed at the production of relatively small, thin flakes suitable for the creation of arrow-sized projectile points, which appear roughly 1,500 years ago in the region (Ludwig 2005). Additionally, most of the earth art and rock art sites and many trails and ceremonial sites likely date to this period (Altschul and Ezzo 1994; Schaefer 1994b). Some of these ceremonial features continued to be used after European contact, and even to the present day.

Changes in the environment surrounding ancient Lake Cahuilla to the south and east of Agua Caliente strongly influenced settlement patterns and subsistence practices there. Recent research shows that around A.D. 1200, the Colorado River shifted course and refilled Lake Cahuilla (Schaefer and Laylander 2007). This refilled lake provided a stable year-round water supply in the Colorado Desert. People began to repopulate the Colorado Desert, some following the river on its route from the Colorado River Valley and some attracted from the Mojave Desert or the mountain ranges to the west (Moratto 1984; Weide 1976). Ceramic wares, which had been introduced centuries before in other areas, were brought into this region with the influx of people. Beginning around A.D. 870, Patayan I ceramic types such as Colorado Beige, Colorado Red, and Black Mesa Buff, appears on the shoreline of Lake Cahuilla (Schaefer and Laylander 2007). The Lower Colorado Buff wares, in common use since A.D. 800, show new attributes around A.D. 1050, such as stucco finishes, recurved jar rims, and tab handles on scoops. These attributes aid archaeologists in dating sites that appear in the area (Moratto 1984).

Late period assemblages beginning circa A.D. 1250 are typified by the profusion of the Desert Side-notched and Cottonwood arrow points, which replace the larger projectile point traditions of earlier eras (Jones and Klar, 2007). These smaller points indicate the introduction of the bow and arrow and the replacement of the atlatl (Moratto 1984). These projectile point types are common throughout California during this period and into the historic period (Justice 2002).

People began to occupy more permanent settlements and exploit different food sources at different times of the year because enough resources were present to provide year-round sustenance. Evidence for these settlements can be seen in coprolite analyses, which reveal the remains of plant and animal foods available during different seasons (Moratto 1984). Trade networks between coastal peoples and the occupants of the desert interior began to develop around A.D. 1000. This development is apparent in the archaeological record by the exponential increase in shell beads within Colorado Desert sites (Fagan 2003).

Most local archaeological resources in the vicinity of the Reservation and TUA date to the Late Prehistoric period. They include a variety of cultural resources associated with the Lake Cahuilla shoreline (Wilke 1978) and with springs, wells, and major drainages. Murray,

Andreas, and Tahquitz canyons were important population centers during the Late Prehistoric period (Bean et al. 1995), in addition to nearby Agua Caliente Hot Springs (Brown 1997). The same is true of the mountainous region (which includes the exchange area), where archaeological investigations have revealed occupations dating back to at least 200 BC. The majority were small processing sites associated with the grinding of vegetal resources. Larger habitation sites were less common, but they displayed a wider range of activities and longer periods of occupation than other Late Prehistoric period sites (Jefferson 1974). Typical artifacts at these sites include Desert Side notched and Cottonwood Triangular projectile points and Lower Colorado Buff and Tizon Brown ware ceramics. Stone artifacts were typically made from chert, volcanic, or quartz rock specimens.

The Cahuilla inhabited the San Jacinto and Santa Rosa Mountains, the Coachella Valley, and nearby regions during this period. They are a language subgroup of the Takic family of the Uto-Aztecan stock and are closely related linguistically to the Gabrielino/Tongva, Luiseño, and Serrano. The environmental diversity of Cahuilla territory reflects the range of habitats present in inland Southern California. Ecological habitats included the full range of mountains, valleys, passes, foothills, and desert areas. Villages were typically situated in canyons or on alluvial fans near water and food resources, and a village's lineage owned the surrounding land (Bean 1978). The Cahuilla were socially and politically complex, with moiety, clan, and lineage levels of organization. They "recognized two non-territorial, non-political patrimoieties, *túktem* (Wildcats) and *?ístam* (Coyotes)" (Bean 1978), which guided marriage rules and practices. In this patrilineal moiety system, every Cahuilla individual belonged to his or her father's moiety and was expected to marry someone from the opposite one. Patrilocality was the preferred residence pattern, with the wife typically moving to take up residence in her spouse's village.

3.3 HISTORIC-PERIOD

California's historic period is typically divided into three periods beginning with the arrival of Spanish explorers. The Spanish Period is characterized by the establishment of the first of many Spanish Missions to be founded along California's coastline, the first being in San Diego. It was during this period that livestock and agriculture were introduced. The Spanish Period ended with the secularization of the mission system in 1834, marking the onset of the Mexican Period. During the Mexican Period large land grants were given to individuals and the cattle industry blossomed in the region. The Mexican Period ended with the Mexican-American War of 1846.

The American Period commenced in 1848, at the end of the Mexican-American War and continues to present. The discovery of gold in the Sierra Nevada foothills in 1849 led to an influx of emigrants to the California region. As the population grew, the landscape also was modified. Agricultural development occurred on nearly all arable lands, woodlands were cut for lumber, railroad ties, and timbers. Cattle grazed some native grasses to extinction. Transportation between San Diego and

other major cities became increasingly important, and correspondingly, railroads and interstate and intrastate highways were constructed.

3.3.1 Spanish Period (1542 to 1821)

Exploration of California first occurred in 1540 when a land expedition under the command of Hernando de Alarcon traversed inland along the Colorado River. Two years later, Juan Rodriquez Cabrillo was commissioned by the Spanish government to investigate the western shores of the newly acquired territory. In the following two centuries, little interest was given to California. However, by the late 18th Century, European political powers created renewed interest in the region. The Spanish government, realizing that settlement north of Mexico by foreign parties could become a threat, decided it was time to establish settlements in California. In 1769, the Gaspar de Portolá expedition crossed through the California region and established missions along the coast according to plan. Spanish colonization of California introduced changes in lifestyles and culture that dramatically changed southern California and had a lasting effect on the local landscape and its inhabitants. The introduction of horses, cattle and agricultural techniques and goods, and Spanish law and religious practices resulted in the disruption of Native American lifestyles (SCAG 2008).

The first recorded Cahuilla and European encounter occurred during the Juan Bautista de Anza expedition in 1775-1776, which crossed through the Borrego Valley and the San Jacinto Mountains en route from Tubac, Sonora to Mission San Gabriel. This expedition made contact with the Cahuilla; however the impact of the Spanish was much less immediate and profound to the isolated desert and mountain Cahuilla groups as compared to those along the coast. By 1819, several mission outposts were established near the Cahuilla territory and the Cahuilla began to adopted Spanish practices and traits such as cattle ranching, agriculture, trade, language, and religion (URS 2010; Applied Earthworks, Inc. 2007; ASM Affiliates, Inc. 2009).

3.3.2 Mexican Period (1821 to 1848)

Following Mexico's independence from Spain in 1821, and prompted by the Act of Secularization of 1833, all of the former mission lands were granted to secular landowners (SCAG 2008). The newly privatized lands were used for extensive cattle grazing, which characterized the culture and economy of the Mexican Period.

During the Mexican period Cahuilla worked on Mexican ranchos and became experienced vaqueros. In 1823-1825, an expedition led by Captain Romero and Lieutenant Pacheco crossed the Coachella Valley in search of a passable route to what is now Tucson, Arizona, which became a primary transportation corridor between Mission San Gabriel and Tucson through the Coachella Valley. The Romero expedition reported that the Cahuilla were familiar with the use of horses and cattle, and were engaged in agricultural practices. There are also accounts that the San Gabriel Mission had been obtaining salt from the Salton Basin by the Cahuilla for several years, and that the Spanish padres were visiting the desert Cahuilla at Agua Caliente around 1826. Cahuilla application of ditch irrigation methods for agricultural practices appeared in the Palm Springs area in approximately 1840 though this practice may well have been carried over from even earlier periods, as evidence of

Cahuilla irrigation technology is evidenced at sites dating to between the "Late Archaic and Ethnohistoric Period," c. 2000 B.C.-A.D. 1870s (ASM Affiliates, Inc. 2009).

One government after another controlled California during the two-decade period between the 1830s until 1848. Meanwhile, the United States pushed west across the North American continent, and by 1846, numerous Americans had settled in California, often marrying into landed Hispanic families. During this time, prominent Cahuilla leaders such as Juan Antonio of the mountain Cahuilla and Chief Cabazon of the desert Cahuilla were recognized as representing entire tribal areas and functioned as intermediaries between the Cahuilla and the settlers (ASM Affiliates, Inc. 2009; Bogert 2003). Between 1835 and 1846 relations between Mexico and the United States deteriorated, beginning the Mexican-American War in 1846 (SCAG 2008). Juan Antonio of the mountain Cahuilla and his group played a significant role by siding with the Mexicans against the Luiseno, who supported the Americans (ASM Affiliates, Inc. 2009). The war ended in 1848 with the Treaty of Guadalupe Hidalgo and resulted in the annexation of California by the United States.

3.3.3 American Period (1848 to 1900)

In the late 1840s miners began streaming into Cahuilla territory looking for gold. Conflicts between Cahuilla and settlers increased as Euro-American settlement increased in the early 1850s (URS 2010). Negotiations between the U.S. government and tribal leaders across California commenced in 1850 with the purpose of settling all land rights issues. These negotiations resulted in the drafting of 18 treaties, one of which covered the Cahuilla, Serrano, and Luiseño (ASM Affiliates, Inc. 2009).

The Garra Revolt of 1851, which included the battle in Coyote Canyon on December 20, 1851, essentially marked the end of organized Indian resistance in the region. The Treaty of Temecula, signed by the Luiseño and Cahuilla chiefs on January 5, 1852, was intended to establish a huge Indian Reservation encompassing all of the San Jacinto and San Gorgonio Mountains, the desert country to the east, the Cahuilla Valley and mountains, as well as the hill country west almost to Temecula. Although the tribal leaders were promised supplies, food, and technical training in return for accepting the specified reservation lands, white settlers vehemently protested the treaty and the treaty was never ratified by Congress (URS 2010).

The Cahuilla territory was further reduced in the 1860s as the federal government ceded every odd-numbered section in the Coachella Valley to the Southern Pacific Railroad. In 1876, President Grant set aside small reservations, which included the Agua Caliente Indian Reservation by Executive Order. The following year, another Executive Order by President Hayes set aside every even numbered section and certain other unsurveyed portions of townships for Indian reservations. The result was a checkerboard of tribal land, encompassing 48 sections, spread across the eastern edge of the Santa Rosa and San Jacinto Mountains and the Coachella Valley (Bogert 2003; ASM Affiliates, Inc. 2009).

By the mid-1800s, the Cahuilla populations were significantly reduced as a result of the 1863 smallpox epidemic and extended droughts. As Cahuilla populations decreased, village sites were abandoned and traditional lands were lost. Increase settlement in the area advanced the acculturation of the Cahuilla to new technologies, practices and material goods, which were incorporated into the traditional lifestyle of the Cahuilla. The Cahuilla began renting land or working for the white settlers as ranchers and farmers. Many Agua Caliente people were also hired by the Southern Pacific Railroad to build the pass in 1875 (Bogert 2003; URS 2010; ASM Affiliates, Inc. 2009).

The establishment of the Southern Pacific Railroad and the Bradshaw trail through Coachella Valley allowed easier access to the desert and encouraged settlement in the valley. The Homestead Act, and the Desert Land act in the 1880's, attracted the first settlers to the Coachella Valley. Agricultural activities increased as farmers were able to export their products to a larger market. Along with increased agricultural activities came an increase demand for water (URS 2010). Remnants of developed irrigation systems have been recorded throughout the region and include "early 20th century irrigation pipelines" that illustrate the appropriation of Cahuilla water for early Euro and American settlement in the Palm Springs area (ASM Affiliates, Inc. 2009).

3.4 Modern/Reservation Period (1900–Present)

Although significant cultural change had taken place by the beginning of the twentieth century, the language, traditional knowledge, and some territorial continuity of the Cahuilla, Luiseno, and other interior native groups were retained and recorded by early ethnographers and other anthropologists. By mid-century, however, many tribal members had lost their connection to their heritage and identity as their traditional ceremonial house was burned and the last hereditary leader died. Children often were not allowed to speak their language in school, and many were sent to schools far from their families and communities. Their traditional lifeway slowly faded away. Tribal members entered the wage economy by working as cowboys, laborers on farms, and as domestic servants in homes and hotels. However, many Tribal members started their own orchards, and a few raised horses and cattle. Tribal members, and the Tribal government, began to lease their lands and properties to others.

Coachella Valley Region and Palm Springs

The valley was named for the Cahuilla very early on, first appearing in 1857, on a map of the area drawn by Lt. G. K. Warren. This map was part of the Pacific Railroad Reports in which the Army Topographical Engineers' study of potential rail routes use the name "Coahuilla." The first topographical map in the area was the San Jacinto 1:125,000 scale map survey in 1897-98 and published in 1901. This map shows the name as the "Conchilla

Desert" for the north-western part of the basin. The name for Conchilla was used by scientists at that time. "Conchillas," meaning little shells in Spanish, because the floor of the valley is covered with small shells associated with ancient Lake Cahuilla. A.G. Tingman, Indio pioneer and railroad man and merchant, favoured the name Conchilla and had promoted it for several years. However, most residence disliked the name Woodspur, so a town meeting was held to decide upon a new name. The locales preferred two names; "Coahuilla" and "Conchilla", and their final choice was a compromise of the two, resulting in "Coachella" (Nordland 1978).

Palm Springs & the Built Environment

Palm Springs was originally known as "Agua Caliente", a stop along the Bradshaw trail. The name Palm Springs first appears in 1853 but did not stick until approximately 1890. In 1884, Judge John Guthrie McCallum of San Francisco, the first non-Indian settler arrived in Palm Springs with his family, seeking health for his tubercular son. McCallum purchased land from Southern Pacific and with the assistance of the Cahuilla, built a 19-mile stone-lined ditch to bring water into Palm Springs for irrigation. In 1886, Dr. Welwood Murray built the first hotel, the Palm Springs Hotel, located across from the Indian bathhouse. The first sanitorium for those afflicted with tuberculosis, the Desert Inn, was constructed in 1909. By the 1920s, Hollywood had discovered Palm Springs as a film location and the town rapidly became a playground for the Hollywood stars. Hotels, restaurants, and night clubs were constructed to accommodate the Hollywood crowd and tourists from around the country. The city incorporated on April 1, 1938 (Palm Springs 2011, Bogert 2003).

Prior to incorporation in 1938, Palm Springs was a destination for those seeking improved health and recuperation. Hotels, resorts, winter residences, and commercial uses such as nightclubs and restaurants were constructed to accommodate visitors as Palm Springs increased in popularity and became known as a winter retreat for Hollywood and other wealthy patrons. Between the 1920s and 1930s, older residential neighborhoods were generally composed of the larger, more impressive homes built in the Spanish and Mediterranean styles. More modest and intimately scaled homes also incorporated Spanish and Mediterranean influences or were ranch style homes. Native rock or adobe were common materials found on these early residences (Architectural Resources Group 2004).

During the post-World War II era, modern architecture became the trend in Palm Springs. Homes were generally one story and emphasized geometric forms, textures, sparse ornamentation, and strong linear qualities. In the early 1960s, large scale residential track developments began to be constructed in the Modern style, and condominium homes initially intended as second home or vacation home soon followed. Modernism continued through the 1970s and became the defining architectural character in Palm Springs.

Prolific architects in Palm Springs include Albert Frey, John Porter Clark, E. Stewart Williams, Donald Wexler, Craig Ellwood, and Ric Harrison (Architectural Resources Group 2004).

The first large tract of homes in Palm Springs was built in the early 1960s by Jack Meiselman. This spurred the biggest growth in the history of Palm Springs and resulted in hundreds of homes constructed throughout the city. Development continued until the 1970s when a building moratorium was issued. A new general plan was developed which down-zoned several areas, including tribal lands, which created tension between the Agua Caliente Indians and the city over the city's right to control Indian land. This conflict was resolved by an agreement between the city and the tribe which allowed the city to handle all zoning cases and the Tribal Council to overrule them if conflict arose (Bogert 2003).

Tourism trends and the increased tourism industry in the Palm Springs and Coachella Valley region have become important means for the self-sufficiency of the Agua Caliente Tribe. Much of the Reservation land, as already described, is located within the city limits of Palm Springs thereby making "the Agua Caliente band the city's largest landowner" (SDSU L&I 2010). Among the landholdings of the Tribe is an internationally renowned resort called the Spa Hotel and Mineral Springs, which it acquired in 1992; the Tribe also has ownership of two casinos and an extensive open space and National Register listed property located southwest of Palm Springs popular with tourists and known as Indian Canyons (SDSU L&I 2010). Included among the tourism destinations owned by the Tribe are the Agua Caliente Cultural Museum (ACCM) and research facility, as well as two properties listed on National Register of Historic Places: Andreas Canyon and Tahquitz Canyon.

4 ETHNOGRAPHIC CONTEXT

At the time of European settlement, the region was occupied by Cahuilla Indians, a subgroup of the Takic family of Uto-Aztecan speakers (Bright and Hill, 1967). The Cahuilla were nonpolitical, spoke a common language and recognized to nonterritorial patrimonies, *túṙktem* (Wildcats) and *'istam* (Coyotes) (Bean 1978; *cf.* Kroeber 1962). They were organized into clans composed of three to ten lineages that were dialectically different. Lineages cooperated in defense, large communal subsistence activities, and ritual performances (Bean 1978). Each lineage had a village site and a recognized subsistence territory, yet most of the clan territory was open to all Cahuillas. A clan's founding lineage had a ceremonial leader, a *nẻt*, who was responsible for ceremonies and keeping the peace. The *nẻt* determined when and where people gathered food or hunted, administered first-fruit rites, ensured storage of collected foods for the community's use (ceremonial, subsistence and exchange). The *nẻt* knew boundaries and territorial rites, and passed his

knowledge, skills and position on to his eldest son—whenever possible the lineage leader remained within a direct line of descent.

The *nẻt* was assisted by a *pẻxa*, which also was a hereditary office. The *pẻxa* helped arrange the details for the order and performance of many rituals, sought out and punished anyone who transgressed ritual rules (Bean 1978). He was responsible for scheduling ceremonial performances, contacted people who were to contribute food, told them what to bring, and ensured that proper protocol was followed during ceremonies. Shamans, or *pẻrvulam*, also had great power among the Cahuilla. Shamans controlled natural phenomena such as rain, created food, divined, cured illnesses (both supernaturally and naturally caused), performed sacred ceremonies, and kept evil forces at bay (Bean 1978: 581). The position of *pẻrvulam* was earned by skill, and hence cross-cut clan and lineage boundaries—an association of shamans essentially created an interclan of power-oriented persons. Together, the *nẻt*, *pẻxa* and *pẻrvulam* formed an elite group who made important decisions during good and bad times—but were particularly critical to society during disaster or epidemics.

Hunting and gathering remained the dominant subsistence practice of the Cahuilla until European settlement of the region. However, the Cahuilla used proto-agricultural techniques to raise corn, beans and squash. Wild plants exploited by the Cahuilla include acorn, mesquite, Mohave yucca, pinion nuts, screwbean pods, and the fleshy bulbs of various cacti (Bean 1978). A variety of tubers, wild seeds, berries, fruits and succulent greens provided additional variety to the Cahuilla diet. Deer, rabbit, antelope, mountain sheep, doves, ducks, quail and roadrunner as well as reptiles and insects were hunted, skinned and cleaned by men (Bean 1978).

The Cahuilla were impacted by Spanish exploration and settlement, both directly and indirectly. Historic documents indicate they were hostile toward the Juan Bautista de Anza expedition of 1774, suggesting they had had prior, negative contact with Europeans (Bean 1978: 583). European diseases likely affected many even before contact, due to interaction with other tribes who were in contact. In 1781, the Quechan Indians of southern California and Arizona closed the land route to settlers, forcing Europeans to use sea routes to reach western California. Correspondingly, the Cahuilla had very little contact with Europeans until *asistencias* (extensions of nearby missions) were established in San Bernardino, Santa Ysabel, and Pala in 1819 (Beattie and Beattie, 1939). At that time, the Cahuilla began to adopt some Spanish cultural traditions—agriculture, cattle ranching, trade and wage labor; they also adopted Spanish clothing, language and religion (*ibid*).

Between 1876 and 1877 a reservation was established but the Cahuilla remained primarily on their own lands, practicing a combination of aboriginal subsistence techniques, trade and wage labor to make a living. After 1891, federal supervision became intensive and the

Cahuilla's way of life was changed. They were trained in menial jobs, sent to government schools and their religious and political ceremonies were suppressed (Bean 1972). Still, the Cahuilla managed to maintain a diversified economy until federal land allotments became so small that agricultural development was difficult. From then until the 1930s, the Cahuilla survived by practicing subsistence farming, ranching, wage labor, Indian Service employment and assistance, and by leasing lands (Bean 1978).

After World War II, government supervision lessoned and the Cahuilla were forced to become involved in "health, education, welfare, and economic development from local to federal levels" (Bean 1978: 584). In 1974, approximately 900 individuals claimed Cahuilla descent (most were enrolled in one of several reservations). Today occupational specializations among the Cahuilla range from cattle ranching and farming, civil-service, construction and teaching to independent businesses.

5 Major Research Objectives and the Definition of Hypotheses

Sound research questions should guide all phases of archaeological investigation (including inventory, testing, and data recovery) to understand the history of human occupation and utilization of a given area. A research design describes the research questions being asked, the kinds of data that can be used to answer the questions, the kinds of sampling and field methods that will best recover the data, the relevant techniques of data collection and analysis, and how the results will be evaluated in reference to the expectations. The research design must reflect the nature and scope of the project, the types of sites expected, and potential impacts to significant sites. Studies should focus on the project area and relevant background research. Investigations which are most appropriate must be selected for expected and known sites within a project area. Some initial questions to be answered include: What don't we know? What is worth learning? Which are the best methods for collecting useful data? Is excavation necessary? What limitations are there for gaining potential knowledge without excavation? The research design shall incorporate one or more of the research domains listed below. The research domains will provide a context for all future cultural resources management issues on the exchange lands.

Taking into consideration the historical context, environmental setting to which the current research design applies, as well as archaeological sites and built environment properties potentially encountered, a series of research questions have been developed. These questions by no means represent a comprehensive list, but rather should be used as a starting point upon which others can build. As this research design aims to provide a guide to assist the THPO, future planners, archaeologists, and other researchers, the questions provided below follow a research orientation that is common to previous and on-going CRM work within the Coachella Valley region. These research objectives are intended to address questions related to chronology, technology, and settlement patterns, as well as resource exploitation.

This research design is intended to provide a framework for testing the regional model within the confines of the Agua Caliente Indian Reservation and its immediately surrounding environs. Acquisition of baseline data such as archaeological site types, chronologies, and artifact typologies within the overarching framework of the research design are necessary in order to relate the archaeological resources within this area of interest to the prehistory and history of the region. When evaluating resources within a given area, principal questions must be addressed, chronology and cultural tradition of a resource should be proposed, and site/resource types must be identified and clearly described with respect to historic contexts. The questions presented below for archaeology and the built environment have been organized according to generalized period

(Prehistoric and Historic-Period). The research design provides a framework and theoretical context for project goals, field methods, discussion and interpretations of past human behaviors, and recommendations for future studies (and data needs).

5.1 ANTICIPATED SITE TYPOLOGIES

The following site typology was developed through the implementation of a theoretical approach that combines Agua Caliente traditional Tribal knowledge about their concepts associated with the many theoretical fields introduced above. All possible interested parties stand to benefit from the coupling of traditional Tribal knowledge with the scientific and academic strengths of the key disciplines whose theoretical concepts have been introduced in this research design. The breadth of past academic and CRM work in the Coachella Valley has provided much understanding of past populations and patterns of subsistence. Though this serves as a solid foundation, the oftentimes un-intentional exclusion of traditional Tribal knowledge can be described as a major data gap in existing research methodologies. Through collaboration, an attempt has been made to identify a generalized list of potential prehistoric and ethnographic sites that may be encountered within the Reservation and its surrounding TUA.

5.1.1 PREHISTORIC ARCHAEOLOGICAL AND ETHNOGRAPHIC SITE TYPES

Prehistoric archaeological and ethnographic site types likely to be present within the Agua Caliente Indian Reservation and the surrounding TUA represent a diverse, and by no means comprehensive, list. Table 5.1-1 provides a partial list of site types that are known, recorded, or otherwise potentially found within the Reservation itself and the TUA. Central to this partial list is the presently on-going investigative effort for the Chuckwalla Valley Prehistoric Trails Network Cultural Landscape (PTNCL) by D. Laylander and J. Schaefer (2010). This reference served as a primary source for the definition of prehistoric and ethnographic site types, as found in the below table. Future research and continued collaboration between the archaeological, ethnographic, and Tribal communities may result in the identification of additional site types.

Table 5.1-1 – General List of Prehistoric and Ethnographic Site Types Potentially within the Agua Caliente Indian Reservation and TUA

Site Type	General Description
Isolated Finds	Groups of three or fewer prehistoric or historic (non-refitting) artifacts within a specified distance of each other or the presence of a single artifact from a given period.
Village Sites\Habitation Bases	These sites represent locations where habitation bases represent settlements “where a community or a family lived for a period that was measured, at a minimum, in weeks rather than days” (Laylander and Schaefer 2010). These sites should likewise represent “locations of

Site Type	General Description
	consumption, as much as or more than locations of production" and expected archaeological artifacts and features associated with this site type would include, at a minimum, a noticeably high quantity and diversity of material remains including constructed structures such has house pits, rock rings, or "sleeping circles", occupied rock shelters, and hearths, as well as rock art, faunal and or floral remains or access to such sources, and a variety of artifacts including lithics and ceramics. Boulé noted that Cahuilla villages were commonly located in the canyons near existing water sources, if those sources were available (Boulé 1992: 29). L. Bean notes that a major factor for the selection of desert village sites by the Cahuilla is associated with the location of man-made "lakelets" or water features by "banking the s and around" deep walk-in wells that were excavated into the sandy desert floor (1974: 32; see Prehistoric Water Features site type in this table)
Seasonal Camps\Travel Camps	Temporary sites, more so than the above sites, tend to be absent of features or resource processing. These site types could include cleared circles and hearths, but show no constituents that would be evidence of activities such as foraging, because sustenance resources would not be naturally present at the site location requiring the settlers to bring such with them, to the site location. These site types tend to occur near travel routes and water sources. Also, constructed features commonly associated with habitation activities should not be present or should only minimally be present, aside from possible sleeping circles or hearths.
Simple Cobble Quarry Sites	Prehistoric site types representing locations where concentrations or deposits of quality raw lithic material naturally occur, such as on surficial cobble terraces or exposed geologic deposits. Prehistoric populations would habitually visit these quarry locations for the acquisition, testing, and preliminary fashioning of lithic raw materials for the manufacture of preforms or tools. Attributes for this site type include flaked and/or battered stone artifacts indicative of lithic reduction activities, including lithic debitage, cores (including early-stage bifacial cores), tested (or assayed) cobbles, and hammerstones, with no other artifact types present.
Complex Cobble Quarry Sites	This site type represents locations where concentrations or deposits of quality raw lithic material naturally occur, such as on surficial cobble terraces or exposed geologic deposits, where prehistoric populations would habitually visit for the acquisition, testing, and preliminary fashioning of lithic raw materials for the manufacture of preforms or tools. Attributes of this site type may contain the same artifact types defined above for simple cobble quarry sites, but also contain formed flaked stone tools clearly indicative of a wider range of activities beyond lithic extraction. Those tools may include projectile points or other late-stage bifacial tools, patterned or unpatterned flake tools, and edge-modified flakes.
Extraction Camps	Sites that are more temporary in nature and may have been used for annual or logistical "collector" purposes. These sites typically do not have non-local materials, and for non-lithic extraction sites would consist mostly of late stage bifacial lithic reduction and tool maintenance.
Biotic Resource/Processing	These site types show evidence of exploitation of floral and/or faunal resources and may include the following features: hunting blinds, drive

Site Type	General Description
Site	fences, observation points (with toolstone manufacture/maintenance); milling stations; and roasting pits; and also include artifacts such as lithic scatters (not associated with habitation sites).
Ceremonial/Religious Sites	Such sites may also be considered as TUA or TCP site types and may include includes rock art, geoglyphs, cairns, rock clusters, trail shrines, cremations, rock circles, cleared circles, and/or trail side ceramic breaks.
Rock Art Sites	Prehistoric rock art sites consist of artistic motifs that are etched into (petroglyph) or painted atop (pictograph) weathered surfaces of natural stone outcrops and boulders. Rock art sites can range from the isolated occurrence of a single motif to a single panel consisting of multiple motifs that have been etched or painted onto stone outcrops and boulders, to more complex multi-paneled arrangements with a multitude of motifs that collectively cover several outcroppings, boulders, or escarpments.
Trails/Trail Networks	Trail or trail network site types/features consist of a single footpath, or series of paths, that appear tamped or pushed (constructed) into the surrounding soils as a result of human activity or travel. These paths typically range in size from 30-40 centimeters wide and discoloration of the path may result from repeated compaction of rocky or pavement surfaces; such discoloration may also be the only indicator of a trail's presence. These features are most apparent on desert pavement surfaces or other stable landforms. Often, particularly on desert pavement surfaces, the larger rocks have been cleared from the path of the trail. These site types may or may not be associated with other archaeological remains. Rock cluster features such as cairns or rock piles (also referred to as trail shrines) maybe observed in association with trails. This site type is further categorized in the PTNCL to differentiate trails specifically used for the *exploration of remote resources* vs. trails representing a *relationship of hostility or amity* and those used for *travel for personal or spiritual reasons*.
Rock Cairns/Trail Shrines	These are features that may occur as isolated finds or can be associated with prehistoric or historic-period archaeological sites. These features consist of constructed rock concentrations that stand above the surrounding ground surface. Such features can consist of a single course of rocks, or rocks stacked higher than one course. These features may represent prehistoric activity, or they may be associated with mining claims and homesteading land claims. Similar rock clusters are also commonly used by off-highway vehicle (OHV) users to demarcate OHV tracks, trails, and racecourses.
Geoglyphs/Intaglios	Prehistoric geoglyph or intaglio sites consists of a design, pattern, and/or shape purposely created on the surface by humans through the action of clearing naturally occurring surficial rocks to expose the ground surface, often identified in areas of stabilized desert pavement. These particular site types are more common to the deserts east of the Coachella Valley, near to the Colorado River and may, or may not be, associated with other archaeological features and/or artifacts.

Site Type	General Description
Ceramic Pot Drops/Scatters	Such site types contain objects made of clay which were fired and hardened to form utilitarian vessels or objects for use by prehistoric cultures. These objects are usually found as fragments within archaeological sites or as isolated concentrations of ceramics that were broken in a single location in which all pieces refit, which are also referred to as "pot drops."
Thermal Features/Hearths	Prehistoric site types with attributes typically consisting of loose scatters or discrete concentrations of rocks that have been affected by intense heat and display signs of cracking or pot lid fractures, charring, and-or possible fire/smoke blackening. Such thermal features may also be referred to as "roasting pits."
Ground stone Manufacturing/Quarry Sites	This site type represents locations where concentrations or a deposit of naturally occurring, quality raw lithic material (such as on or near rock outcrops of raw material) that is suitable for use as groundstone. Prehistoric populations would habitually visit these quarry locations and gather and/or collect lithic raw material for the acquisition, testing, and preliminary fashioning of ground stone preforms or tools. Attributes of groundstone site types includes early-stage manufacture of milling-related artifacts, including hand stones (or Manos), pestles, milling slabs (or metates), respectively.
Cremation/Inhumation Sites	Prehistoric site type consisting of articulated or disarticulated human skeletal remains, individual grave features, or a collection of grave features. Prehistoric human remains property types may also occur in the form of a cremation or concentration(s) of burned human bone fragments (also known as cremains) and may be associated with burned and unburned ceramics, debitage, flaked stone tools, groundstone, and/or other unique artifacts.
Prehistoric Water Features	This site type is typified by the presence of various constructed features specifically used to control or gain access to fresh water sources. Ethnographic studies have documented the presence of many subterranean wells or pits excavated into the sandy desert floor, some of which have terraced sides so that a person could walk down and collect the water (Bean 1972: 46; Bean *et al*, 1978: 26, *cf.* Barrows 1900: 26-27). L. Bean describes the custom of the creation of "small lakelets by banking the sand around" deep subterranean wells at locations where the water table was "ten to thirty feet below the surface" (1974: 32). Other water features include constructed reservoirs, dams, and canal irrigation systems such as those documented at Agua Dulce (Wilke 1975: 28-29).

5.1.2 HISTORIC-PERIOD ARCHAEOLOGICAL SITE TYPES

Site types included within this category consist of archaeological remnants related to the Historic-Period events associated with European discovery and settlement, later Mexican and American settlement and expansion, and in particular the regional development of the Palm Springs and Coachella Valleys during the American and early Modern Periods. Generally, Historic-Period archaeological site types represent the scattered and ruinous remains of features, deposits, or other artifacts that can be associated with human activities during the Historic-Period.

Table 5.1-2 – General List of Historic-Period Site Types within or potentially within the Agua Caliente Indian Reservation and TUA

Site Type	General Description
Agricultural, Farmsteads or Homestead Sites	These can be architectural property or historic-period archaeological site types consisting of any building or structure (or remnants thereof) older than 45 years of age and associated with early settlement, farming, agriculture, or homesteading activities in the Coachella Valley or broader Colorado Desert Region. For the present discussion, emphasis is given to historic-period archaeological site types that can be associated with farmsteads or homesteads. Technical definitions for architectural property types are based on those provided by the U. S. Department of the Interior, National Park Service in their publication titled How to Apply the National Register Criteria for Evaluation (NPS 1991).
Structural Remains\Ruins	This archaeological site type consist of structural debris, dilapidated fence lines or corrals, roads, and other structural or building features that may or may not be associated with deposits and/or sparse distributions of domestic, commercial, construction, or industrial debris (e.g., cans, bottles, ceramic tableware, milled lumber, machinery, and appliances) that are older than 45 years of age.
Refuse Deposits	This archaeological site type consist of a deposit and/or sparse distribution of domestic, commercial, construction, or industrial debris (e.g., cans, bottles, ceramic tableware, milled lumber, machinery, and appliances) that are older than 45 years of age. Historical refuse deposits or scatters can be found in isolation, as a by-product of historic-period architecture or occupation.
Mining Sites	These sites may strictly be archaeological sites or may include a combination of archaeological artifacts and features as well as historic-period properties. These properties may potentially include (though not limited to) borrow pits; shafts; adits/prospects or other surface mining features; access roads; mining-related equipment and other mining-related artifacts; mining-related structural ruins; and raked and scraped surfaces resulting from gravel mining that are older than 45 years of age.
Transportation Sites	These linear features can be archaeological sites or historic-period properties that are older than 45 years in age, possibly including roadways, bridges, railroads, canals/irrigation systems, and transmission lines. These sites may or may not be associated with other historical resources.
Infrastructure Sites	Other linear features can be archaeological or historic-period properties that are older than 45 years in age and can be attributed to the development of infrastructure in the desert region, such as the production or transportation of energy and other natural resources by way of transmission lines, pipelines, etc. These sites may or may not be associated with other historical resources.
Human Burials\Cemeteries	This site type represents the location of both documented and undocumented human burials dating to the historic-period that are individually interred or collectively interred within communal or family cemeteries.

5.1.3 Built-environment (Architectural History) Property Types

Built-environment (architectural history) property types represent any standing, currently functioning, buildings or structures that are older than 45 years in age or are associable with significant individuals or events in history, particularly with regards to the history of the region or of the state. As has been briefly introduced in the cultural context section of this research design, the Palm Spring and Coachella Valley together host a richly diverse collection of built-environment properties, many of which are associated with, to a lesser degree, the influx of entrepreneurial settlers of the American Period and more prominently, the boom experienced as a result of the later influx of tourism, the spa industry, Hollywood and other wealth-based influences during the Modern/Reservation Period. Several distinct architectural styles are common to the Palm Springs and Coachella Valley and collectively contribute to the overall character of the desert built environment.

Specific distinct styles and built environment property types known to the region and potentially found within the Agua Caliente Indian Reservation and its TUA include Spanish and Mediterranean Style residential architecture, native rock or adobe residences, Modern Style residential architecture, commercial or industrial architectural buildings and structures, as well as structures or buildings associated with early tourism or resort development in the region.

5.1.4 Traditional Use Areas (TUAs) and Traditional Cultural Properties (TCPs)

TUAs and TCPs are cultural resource types that broadly represent specific natural, ceremonial, or functional areas where access to native plant, lithic, or other natural resource material is possible. This research design has specifically offered a definition of the Agua Caliente Indian Reservation and the broad Agua Caliente TUA in preceding Section 3, however contained within this broad TUA are more localized, functional areas and areas of importance to the present-day Agua Caliente Tribal community. Examples of the more localized TUAs potentially found include plant gathering localities, localities where present-day Tribal ceremonies or gatherings occur, geographical locales or place names that are mentioned in — or are otherwise central — to Tribal oral histories, as well as areas where native animals are known to frequent.

Within the TUA, specific areas exist where important Tribal cultural traditions and ceremonies occur. Such ceremonial and religious sites may likewise be considered prehistoric or ethnographic site types and may consist of rock art, geoglyphs, cairns, rock clusters, trail shrines, cremations, rock circles, cleared circles, and/or trail side ceramic breaks. More specific to TUAs and TCPs, this site type represents the area or locations of importance to the Agua Caliente Tribal community for the practice of traditional

ceremonies, rituals, or for religious functions; an example of this site type is the above-described *Kishumnawet*. Other traditional use areas may represent locations where specific traditional subsistence practices have occurred and continue to occur through the modern Tribal practices and traditions. Included amongst these are agave roasting sites including roasting pits, *Kupcachem* or Barrel Cactus collection and processing sites, *Amul* or Agave collecting areas, as well as collection areas associated with *Menyekish* (Mesquite Beans), *Quinyil* (Black Acorn), *Tevatem* (Pinyon Pine Nuts), and salt gathering sites.

In addition to the broad and localized TUAs, two TCPs, are known and documented as within the Agua Caliente Indian Reservation: Tahquitz Canyon and Andreas Canyon. TCPs, as defined in Bulletin 38 of the National Register of Historic Places, *Guidelines for Evaluating and Documenting Traditional Cultural Properties* (Parker and King 1998), are resources associated with traditional cultural practices or beliefs of a living community. A TCP must be rooted in a community's history and be important in maintaining the continuing cultural identity of that community for at least the last 50 years. Tahquitz Canyon represents another district that has been listed on the National Register due to its prolific collection of archaeological sites and its connection to the Agua Caliente Band of Cahuilla Indians and their place of origin (King 2003: 24). Andreas Canyon was nominated to the National Register in 1972 and later validated as a register property. The Andreas Canyon Archaeological District is located in the ACBCI Reservation and consists of multiple historic-period and prehistoric archaeological sites and geographic features including Rincon Village and environs, Andreas Canyon, Murray Canyon, and North Palm Canyon.

5.1.5 Considerations Regarding Site Significance and Site Integrity

When considering the significance and integrity of cultural resources within the Agua Caliente Indian Reservation, TUA, criteria as defined by NHPA or CEQA are of central importance. In addition to these criteria, a separate standard of criteria should likewise be taken into consideration. Should a cultural resource be identified, not only should the significance of a site and its integrity be made in accordance with the overarching regulatory framework, but consideration should also be given to the possible significance or importance that resource may have to the broader community within which that resource is located. Even though a resource may not meet the minimum criteria for significance or eligibility for inclusion on the National Register or the California Register of Historic Places, that resource may have emphasis or importance to one or more community members for cultural, ritual, or other reasons. Through the incorporation of collaborative concepts it is better possible to assess this alternative level of significance.

With regards to integrity, consideration should also be given to whether or not a given resource contains adequate data potential and can therefore help answer specific questions important to understanding of pre-contact and protohistoric Cahuilla culture regardless of

if a cultural resource can be directly associated with one or more contexts identified as culturally important to the ACBCI. If a cultural resource shows evidence of intact features or deposits that are temporally and spatially distinct or contains discrete deposits which are not features deposits should be taken into consideration when assessing the significance of a cultural resource. Beyond the criteria for evaluation of significance for the National Register there is a separate set of criteria, one held by the Tribe regarding cultural resources and what is deemed as significant. Collaboration with the Tribe and other potential communities to which a resource has importance is the best means of identifying additional site significance, beyond what is required by NHPA or CEQA.

5.2 Prehistoric and Ethnographic Research Questions, by Themes

Colorado Desert prehistoric archaeology is complex, as it encompasses an extensive time period, numerous Native American cultures, and a suite of perplexing environmental changes. Past research has shown that the region has been used for over 12,000 years for resource procurement, settlement, and has revealed evidence that the area served a transportation route is documented both for prehistoric and historic periods in the form of Indian trails such as the Coco-Maricopa and later by wagon roads like the Bradshaw Trail. All studies conducted at the inventory level have the potential to address questions related to technology, settlement patterns, and resource exploitation and as such these themes are among those research domains identified for this research design. Additional research themes also addressed in this research design include chronology, geoarchaeology, trade and economic exchange, ritual and ceremony, as well as Tribal cultural land uses or practices. Though specific cultural shifts have been identified throughout the prehistoric period, the general consensus concludes that prehistoric people were organized in small groups of mobile hunter-gatherers who would range over large areas to capitalize on diverse resources. The mobile aspect to these early groups has likewise been confirmed in the archaeological record. Long after the first native populations successfully utilized the Colorado Desert region, historic-period settlers followed. Well-established trade and trail networks, used for hundreds if not thousands of years, crisscrossed the region and soon became corridors essential for the first European explorers and settlers.

The evidence for human presence in the Colorado Desert in the Late Pleistocene and Early Holocene (ca. 10000 – 6000 cal. B.C.) is scarce. This lack of evidence is in marked contrast to well documented occupations in the regions surrounding Agua Caliente, including the Mojave Desert to the north, areas adjacent to ancient Lake Cahuilla to the east and south, and coastal southern California to the west (Schaefer and Laylander 2007). Circumstances such as the ephemeral nature of settlement during the period, the instability of landforms, or sampling bias of research locations may explain this lack of evidence rather than an actual gap in occupation. In contrast with the general pattern of population expansion during the Archaic period, there is a dearth of evidence of Archaic occupation in the

Colorado Desert (Schaefer 1994b; Weide 1976). During the early Archaic, the Colorado Desert appears virtually abandoned on the basis of current data. This absence of Archaic occupation on the desert is a key regional research issue (Schaefer 1994b).

The archaeological Patayan complex is often taken to be directly ancestral to the ethnographic Yuman cultures of the region. However, non-Yuman groups, such as the Cahuilla and the Chemehuevi, were also active participants in this cultural complex: "the prehistoric Patayan world was multicultural and inter-cultural, representing many dynamic adaptive strategies and social systems but sharing common elements of technology, material culture, and ideology" (Schaefer 1994b).

5.2.1 CHRONOLOGY

Chronology of prehistoric occupation is a fundamental issue which often restricts our ability to address other questions pertinent to reconstruction of regional culture history (McDonald et al 1998). Numerous culture chronologies have been hypothesized for the Colorado Desert over the years, but many questions remain, particularly regarding why changes in prehistoric technology, resource use, and settlement systems occurred. Therefore, the following research questions are proposed.

Research Questions:

- Based on existing archaeological evidence, combined with ethnographic and Tribal knowledge, can a temporal context of prehistoric and protohistoric archaeological remains within the Reservation and TUA be more clearly defined? Are the results of this combined knowledge consistent with the findings of past research locally or throughout the region?
- What is the spatial distribution of the various temporal contexts of sites within the area of concern and surrounding regions?
- What was the nature of settlement in the Coachella Valley and Colorado Desert during the Late Pleistocene and Early Holocene?
- What can explain the lack of sites in the Colorado Desert during the Archaic?
- What was the nature of the cultural interaction sphere that contributed to the Patayan complex during the Late Prehistoric and Protohistoric?
- Can Tribal traditional stories or legends contribute to the mainstream academic theories regarding prehistoric chronology?

- Does the inclusion of ethnographic documentation of Cahuilla oral traditions or stories correlate with academic or CRM-based conclusions pertaining to our understanding of the chronological?

- Can the assemblage of artifacts at a site enhance our understanding of chronology in the region?

- Can assemblages, samples, and/or artifacts be dated?

Data required to address these questions will be derived from documentation of flaked stone artifacts such as projectile points, blades, beads or pottery that have stylistic attributes which are temporally diagnostic. Additionally, it has been proposed that reduction sequences can have bearing on general chronology, with earlier San Dieguito sites typically having artifacts representative of percussion reduction only, and later San Dieguito sites having evidence of pressure flaking. Additionally, later sites within this period show greater richness of the types and functions of lithic artifacts within their assemblages (Schaefer 2003). Therefore, tallies of flaked stone artifacts and debitage at sites should be compiled and would include stage of reduction within the sequence. If completed tools are present, descriptions of their functional type and degree of refinement should be noted in order to aid assessments of the relative richness of artifacts assemblages. If located, obsidian artifacts can provide further information about trade or economic exchange and usage patterns; furthermore later analysis of these artifacts using hydration measurements could potentially determine their age.

5.2.2 GEOARCHAEOLOGY

Geoarchaeological analysis is an important approach that can greatly increase our understanding of depositional processes, site formation, and paleo-environmental reconstruction. At another, more regional level, geoarchaeological principles, when incorporated into the study of the past can greatly increase one's understanding of the relationship between ancient populations and their environment.

Research Questions:

- What are the key geomorphic provinces in the region and how do they correlate with known archaeological site locations and types?

- Are there other sources of data or information available that will help the Tribe and archaeologists understand the depositional processes of cultural material within the Coachella Valley and the broader Tribal Use Area?

- What is the potential for subsurface archaeological deposits associated with geomorphic landforms? Is there a correlation between prehistoric sites with

subsurface archaeological deposits and geomorphic landforms upon which the site is located?

- What does the inclusion of geoarchaeological study tell researchers and the Tribe about the paleo-environment?
- What types of lithic deposits exist in the TUA or Reservation that might be ideal quarry locations? Can specific geomorphic formations identified, the presence of which would indicate an increased likelihood for prehistoric lithic exploitation of materials?
- How did changes in climate affect subsistence activities? How are responses to environmental stresses revealed in the archaeological record? What cultural remains can be interpreted as indicators of this shift?

Data requirements necessary to address the above-questions involve the development of a Geomorphic History, as derived through geoarchaeological study. Investigation into, and an understanding of, the geomorphology of the region of interest is necessary, as is it also necessary to have a solid understanding of the specific geomorphology of a particular project location. Observable geomorphological features such as desert pavement, depositional fans, ancient channels or lake-beds, among many others will be required. Any such geomorphological features should be mapped and analyzed for correlations with the locations of other resources. Prior research into the specific geology and geomorphology of a particular project area will likewise be necessary. Through the recordation of geomorphology and its association with known or identified archaeological sites, possible patterns may be observed that could assist with future predictive modeling. Recordation of artifact types and counts will support analysis of the relative richness of sites, and artifact assemblages, thereby assisting in the development of site interpretations. Additionally, any potential food remains such as bone and shell should be documented and species tentatively identified.

5.2.3 Settlement and Subsistence Themes

Subsistence and settlement systems of hunter-gatherer societies are flexible, ranging in a spectrum from "foragers" to "collectors" with foragers primarily employing a strategy of movement of the group to resource patches and collectors moving resources to residential areas (Binford 1980). As a result, groups employing forager strategies will tend to have relatively more short-term camps and residential sites whereas groups employing collector practices will have a greater tendency to produce short term resource extraction sites, some seasonal camps, and more intensive habitation sites. The presence of specific indicators commonly associated with more stable or permanent prehistoric settlements include multi-components sites with a diverse combination of artifacts, features, and

density of deposit (Kroeber 1976a; Moratto 1984). The identification and documentation of the faunal remains of fish species common to ancient Lake Cahuilla may contribute to the definition of spheres of exploitation (Gobalet *et al.* 2000). The presence of such unique artifacts at archaeological sites provides testable indicators of past land use, settlement, and subsistence patterns.

Dr. Lowell Bean explains quite well in his book "Mukats People", which has already been discussed in preceding sections, that the Cahuilla had permanent villages made up of a family or clan. The size of the clan depended on the number of resources within a given area and all resources, from meat, to medicines, to harvest fruits and nuts, all had to be located within a 10 mile radius of the base camp. If the distance was any farther than that, then a temporary camp would have been developed and used while the family was out collecting resources. This temporary camp would have been a day's hike away from the permanent village. Subsistence included a variety of resources available seasonally. Meats and plants were both eaten, with an emphasis on non-meat products. Honey mesquite was the staple for the dessert Cahuilla while the black acorn was the staple for the Cahuilla in the higher regions (Bean 1972). Mary Boulé notes in her publication *Cahuilla Tribe* that "[b]oundary lines of Cahuilla land were plainly marked, sometimes with pictures, called petroglyphs, drawn on big rocks. Other large landmarks might be mountains. Sometimes a boundary would be marked by a simple pile of rocks" (1992: 28). Ms. Boulé also notes that Cahuilla villages were "built in canyons, near water if possible" as the "canyon gave them shelter from winds and shade" (1992: 29). The inclusion of such ethnographic and traditional Tribal knowledge into the settlement and subsistence themes could greatly enhance the investigation of, and potential identification of, behavioral patterns of indigenous populations occupying this region.

Research Questions:

- What is the distribution of resource extraction sites, seasonal camps, and more intensive habitation sites within the Project Area? Do these site types correlate with resources such as food, water, or lithic materials?

- Can surficial archaeological inventory of prehistoric sites provide enough data to determine length of use and purpose (habitation, travels, extractive, lithic quarries, biotic resource exploitation, or religious/ceremonial locations)?

- If a site is interpreted to have more permanent habitation or settlement, what are the indicators or material culture assemblages that must be present to defend such an interpretation?

- Can paleo-environmental factors be observed in the current setting that may explain the location of prehistoric archaeological sites, such as the existence of formerly unidentified prehistoric lakes, fossilized stream channels, or springs or an abundance of material sources for procurement?

- Using documented ethnographic and geoarchaeological data, can a model be developed to identify areas with a more likely occurrence of specific site types? As an example, if all exploited materials had to be within 10 miles of a permanent settlement (Bean 1972), is it possible to reconstruct the paleo-environment to help predict the probably location of permanent villages?

- What, if anything, does the recorded location of rock art, rock cairns, mountains, or other potential territorial boundary markers tell us about the spatial extent of the TUA?

- Based on the artifact assemblages is it possible to identify the type of procurement activities; such as hunting/processing small and/or large game, plant resource processing, and/or simply procurement of raw materials?

- Do sites from a given period indicate prehistorically favored locations? Are they the result of a specialized lithic technology, or do they evidence the use of raw materials derived from local or non-local sources? Can data from sites shed light on trends in settlement mobility, plant cultivation, or use of unusual raw materials?

- What is the relationship between sites in the uplands and those in the desert valley floor and canyon mouths with respect to permanent village areas and patterns of resource gathering? Do the sites and their assemblages indicate adaptations to the local environment?

- How did the climate and environments change through time and how did the Cahuilla adapt to these changes?

- What was the distribution of native flora and fauna over time?

Data requirements include accurate mapping of all artifacts and features, along with subsistence related natural resources (or remnants thereof) which may help define the paleo-environment. Mapping should include point provenience recordation of loci, features, and diagnostic artifacts identified within sites. Recordation of artifact types and counts will support analysis of relative richness of sites and the specific constituents of the artifact assemblages could allow sites to be interpreted and categorized by function. Additionally, any potential food remains such as bone and shell should be documented and

species tentatively identified. Any potential prehistoric lakes or stream channels noted should be mapped and analyzed for correlations with the locations of other resources. On a more regional level, the documentation of rock cairns, rock art locations should be completed and compared to the locations of previously identified similar resources.

5.2.4 TRADE AND ECONOMIC EXCHANGE

Historical references and accounts, ethnographic studies, oral histories, and published archaeological investigations confirmed the existence of extensive trade networks utilized by prehistoric populations for the purpose of transportation during resource acquisition forays, as well as economic and social exchange (Apple 2005; Davis 1974; Sample 1950; Sutton 1987**;** Sutton and Parr 1989). Most notable are the Coco-Maricopa and the Mojave Trail, which connected prehistoric groups as far west as San Bernardino with those farther to the east along the Colorado River (von Till Warren and Roske 1981:21). Such trails were essential in the transportation of trade goods and shared technology, as they provided a means for social interaction between otherwise isolated population groups. The trail networks were continually used throughout prehistory and eventually became essential transportation corridors used by the first European explorers and settlers in the southern California desert region (von Till Warren and Roske 1981). As an example, Mojave groups were known to have provided trade items such as pottery, horses, shell, beads, some crop items such as pumpkin and corn, to nearby Mono-Yokuts, Kumeyaay, Havasupai, Yuma, and Walapai groups (van Werlhof 1988:70-71). As stated by Bean and Toenjes, the Cahuilla operated within an extensive "international trading system." This system covered the majority of the Colorado Desert region and connected the Pacific Coast in the west with the Hopi and Rio Grande Pueblos in the east via a complex foot-trail network (2010).

The Cahuilla, in particular, have been described as "active long distance traders" (Bean and Toenjes 2010). In their draft ethnographic study, Bean and Toenjes (2010) summarize the Cahuilla (amongst other local tribes such as the Gabrielino, Panya, Gila River Pima, and *Kohatk*) as an integral part of a complex network of trade distribution. Goods originating from Gabrielino territory to the west of the Cahuilla were transported east via the Cahuilla, among them being steatite, Abalone shell, Olivella beads, sea otter pelts, and asphaltum. This same publication lists the Cahuilla as originators of other goods that were consumed and traded to their neighbors. Included amongst these resources were various seeds, buckskins, deer tallow, obsidian, general furs, red paint, acorns, and salt. Laetitia Sample (1950) published a pivotal work discussing trade and transportation trends utilized by native peoples of California. Expanding upon this work, James Davis (1974) produced a comprehensive discussion pertaining to native trade and exchange, including an attempt to identify specific goods that would be exchanged between the various ethnographic populations of the California Deserts. In this work, many of the items exchanged were perishable, among them being gourd rattles, baskets, vegetal goods such as acorns, tobacco,

salt, nuts and roots, and harvested crops from the Lower Colorado River. Other goods were likewise exchanged, such as shell, beads, animal hides, blankets, nets, among others.

As a result of these complex trade networks, socio-political and economic alliances were created between the Cahuilla and neighboring ethnographic groups. Allied to the Cahuilla were neighbors inevitably connected to the Cahuilla via trade, including the Gabrielino, Serrano, the Panya and northern Piman, among others (Bean and Toenjes 2010, Table 1: Amity-Enmity Alliances of Northern Sonoran Desert Peoples). A separate, eastern alliance stood counter to the Panya Allies, within which rested the Cahuilla, identified as the Mohave-Quechan Allies.

Research Questions:

- Is there archaeological evidence of prehistoric trail or transportation networks within the Reservation or TUA? Which trail routes were utilized for exchange and trade?
- What are the basic criteria that must be fulfilled in order to differentiate an ancient trail from one of historic or modern creation?
- If evidence of such trails exists within the Reservation or TUA, is there a notable relationship between the location of prehistoric sites and ancient transportation routes or trails? Does the location of trails correlate with particular archaeological site types?
- Can a relational pattern be established that links the paleo-environment, the location of trail features, and the location of exploitable resource locations? If such a pattern exists, what exploitable resource locations are the most commonly associated?
- Is it possible to chronologically place these features or otherwise pinpoint specific periods of use?
- Are there diagnostic artifacts associated with trail features or transportation routes and can their presence indicate trail type/function as defined by Laylander and Schaeffer (2010)?
- Is the artifact assemblage at identified prehistoric archaeological sites indicative of long-distance trade, such as the presence of unique source material types such as obsidian, Olivella and other shells, or ceramics?
- Does archaeological evidence exist at sites that may indicate agricultural strategies amongst prehistoric and ethnographic populations? Can an archaeological toolkit be defined that would indicate the presence of an agriculturally-supplemented economy.

- Using ethnographic studies as a base, does the archaeological record possess artifacts, materials, or features that can help strengthen our understanding of inter-regional trade between the Coachella Valley, the Cahuilla, and other neighboring regions and/or populations (*i.e.* Mojave, Colorado River region, Quechan, Chemehuevi, Halchidhoma)

- How do regional trails and associated influences fit into the movement of people and goods? What types of goods were exchanged?

- How was the trade network developed?

Data requirements to address these questions include a review of previously recorded resources for the identification of loci, features, and diagnostic artifacts that are unique and are potential indicators of trade networks or economic strategies. All new sites identified through future investigations should be documented in sufficient detail as to support the analysis of the relative richness of the site through the recordation of artifact types and count. Recordation of new sites should also include an identification of specific constituents of the artifact assemblages so as to allow the site to be interpreted and categorized by function. Additionally, any potential food remains such as bone and shell should be documented and species tentatively identified. Any potential prehistoric lakes or stream channels noted should be mapped and analyzed for correlations with the locations of other resources. In particular, prehistoric trails within the Reservation and TUA should be mapped, to the greatest extent practical and inclusive of any associated features and artifacts so that these paths can be analyzed for correlations with other resources.

5.2.5 MATERIAL(S) PROCUREMENT

The most frequently documented artifacts found at prehistoric sites in this region are lithics. Should diagnostic lithic tools, such as projectile points be present, it may be possible to place the site within a chronological schema for this region. Lithic materials at prehistoric sites can indicate whether or not a given population preferred to use local materials and technologies as opposed to imported source materials or hafting techniques. In addition, there may be correlations between local versus exotic tool materials and tool function. Testing of lithic material, as an activity, may occur wherever suitable material was encountered. Therefore, their presence seems to be conditioned primarily by the presence of desirable lithic materials. It is common that lithic reduction sites contain some evidence of assaying and primary reduction of lithic materials. The intent of assaying activities were to remove sufficient cortex from a candidate cobble to allow the grain and uniformity of the inner material to be assessed. If a cobble was determined to be of suitable quality, it would either be further reduced at that location or removed at another location for reduction. In either case, the resulting reduction locus or loci would likely contain, at very least, early and middle stage flaking debris, and perhaps discarded cores and hammerstones.

The case has been made that the material quality, when considered along with material abundance, would likely have been a primary factor conditioning the choices made by prehistoric stoneworkers regarding reduction strategies and goals. Material quality is defined as the ease with which a given material can be flaked and shaped, which is primarily a function of homogeneity and grain structure. Additionally, based on ethnographic evidence, Andrefsky (1994) asserts that poorer quality materials are more often made into informal tool designs. If high quality material is available in small quantities, it will generally be made into more formal tools. When higher quality material is in abundant supply, both formal and informal tools are created. However, this relationship can be affected somewhat by mobility. More sedentary people are more likely to exploit local tool sources even when they are comprised of lower quality toolstone than more distant sources. In such cases, higher quality stone obtained at longer distances will more likely be made into more formal tools and lower quality local sources into more informal ones (Andrefsky 1994). For a broader discussion of prehistoric quarries, quarry assemblages, and mobility of raw materials particularly for the Great Basin, reference C. Beck et al. (2002).

It has been proposed that two basic strategies for lithic material extraction at desert pavement quarries have been observed: embedded and direct. Embedded extraction strategies are used by people traveling long distances who seek to reduce travel costs by procuring toolstone while foraying for other, usually subsistence, resources. In contrast, direct extraction is a strategy whereby those with relatively close access to rich source locations make specific forays for the explicit purpose of extracting toolstone. As an example, Giambastiani (2008) has argued that some loci of pavement quarry sites at Marine Corps Air Ground Combat Center (MCAGC) located to the north in the Mojave Desert, show evidence of embedded strategies and other loci appear to have resulted from direct strategies.

As discussed above the archaeological expectations of pavement quarry sites from embedded extraction strategies (more mobile groups) tend to exhibit greater degree of middle to late bifacial reduction. Those sites created by direct acquisition (more sedentary groups) tend to have fewer later stage tools, and expedient lithic reduction. Comparing data found at different desert pavement quarries sites in association with previously recorded habitation sites in the area could provide data to further support or refute this hypothesis.

Research Questions:

- Do prehistoric sites within the Project Area show a preference of locally accessible materials for the manufacturing or processing of lithic tools? If so,

are there any sites that exhibit a combination of local and imported lithic material?

- Is it possible to determine site functionality based upon the stages of lithic reduction, as determined by the analysis and documentation of debitage, tools, and other implements present?
- Should diagnostic lithic tools such as projectile points, bifaces, unifaces, or other such objects be identified at prehistoric sites, can information be obtained regarding manufacturing techniques or technology that is believed to be of local origin?
- Are their diagnostic indicators of technological manufacture techniques or objects that originate outside of the region and are therefore attributable to the importation of ideas? If imported, can the region of origin be identified?
- Is there a correlation between material selection and artifact function?
- Are there specific lithic material exploitation patterns identifiable in the Coachella Valley? Do prehistoric collections strategies of lithic materials more so reflect an embedded or direct approach, as defined?

Data requirements to address questions regarding material use patterns and technological indicators include recordation of lithic artifacts and the specific material they are made from, and their reduction stage. Scale drawings and photographs of finished diagnostic flaked stone artifacts such as blades and projectile points should be done so as to allow further analysis of style and technological attributes.

5.2.6 LITHIC TECHNOLOGY

They offer the potential to address a number of relevant research issues related to resource acquisition, tool production techniques and reduction methods. Combined with sufficient chronological context, such data can have bearing on questions regarding change over time of subsistence practices and their associated technologies. There are significant ambiguities and data gaps regarding these questions. Recently, the temporal sensitivity of projectile point typology has been questioned, particularly in reference to various dart point types, especially given that broken points can and were worked into other forms (Flenniken and Wilke 1989). Some researchers have questioned the historical development of various hunting technologies and their associated social values. For example, Yohe (1992) questions whether atlatl and dart technology was replaced or augmented by the introduction of the bow and arrow.

The majority of archaeological sites reported in the Colorado Desert are consistent with expedient lithic reduction localities (Jones and Klar 2007). These sites are typically lithic reduction in nature and tend to be dominated by early stage bifacial reduction artifacts and tools, which often have a large number of flakes, cores, bifacial cores, retouched and utilized flakes, angular waste/shatter, hammerstones, and occasionally anvils. Such artifacts indicate percussion (hard-hammer and/or soft-hammer) reduction activity (Andrefsky 2008a and 2008b; Odell 2004; Whittaker 1994). Some of these sites types discussed above have been reported as Paleoindian sites, although this hypothesis has not been verified. What these site types/lithic reduction sites indicate is a heavy preponderance of early stage lithic reduction of available source material, lacking temporally diagnostic artifacts, therefore such sites have the potential to date as early as the Paleoindian also known as San Dieguito (12,000 – 6000 B.C.) and up to the Late Prehistoric era (A.D. 500 – Contact). Tools refinement is later found in the form of smaller points and a larger variety of scrapers and choppers and is most likely a result of the changing environment and resources. Tool types became appreciably more diverse and refined

Research Questions:

- What has previous scholarship and archaeological investigations in the Agua Caliente TUA concluded about the Desert Cahuilla lithic technology? What are the key artifacts within the lithic toolkit of the Desert Cahuilla?

- Can lithic technology be used to identify sites from the different San Dieguito Phases?

- Can remanufacture of earlier forms be identified in any recovered projectile points? If so, are such artifacts found in sufficient numbers to skew chronological data derived from projectile point styles?

- Does the lithic assemblage present at sites reflect material acquisition and initial reduction or subsequent tool manufacture or reshaping? Do the locations of percussion reduction stations correlate with presence of suitable materials, therefore indicating that their distribution may be the result of surface quarrying rather than chronological factors (e.g. earlier sites having percussion reduction only)?

- Does the richness of the lithic assemblages and the lithic technologies represented at each site correlate with other temporal indicators? If so, are the results consistent with assertions that a greater use of pressure flaking occurred over time?

The data required to address these questions would be generated from the identification and recordation of diagnostic stylistic attributes of finished flaked stone artifacts such as blades and projectile points. Additionally, tallies of lithic artifacts by artifact type would be required to assess the relative richness of assemblages at different sites. The reduction stage of each artifact should be included in the tallies so that relative prevalence of percussion reduction as opposed to pressure flaking.

5.2.7 RITUAL AND CEREMONY

Archaeological evidence of Native American ritual and ceremony may often be difficult to identify due to the protective desire to keep ritual activity private, although some ethnographic accounts serve as important sources for the description of ritual and ceremonial activities, as has an effort been made to infer such practices as a result of artifacts or features found in the archaeological record. As an illustration of ritual and ceremony within the Agua Caliente Tribal community is the *Kishumnawet Story* where, in 1952 the last Ceremonial House or Big House (*Kishumnawet*) was burned by tribal leaders. At the time Tribal leaders recognized the potential negative affect of outside influence on tribal traditions and ceremonies could cause harm to the tribe. Burning the *Kishumnawt* put an end to these traditional ceremonies but kept the people safe from possible harm. The *Kishumnawet* once stood near the Lady of Guadalupe Church on Arenas Road in Section 14.

Heizer and Whipple note that for the Cahuilla, shamanistic power is more often represented by "deities, monsters, or heavenly phenomena more often than animals or unnamed spirits" (1971: 40). Dreams within Cahuilla shamanism are also noted to have extreme importance. As ritual and ceremony is often associated with religious or cult practice, the identification of documented cult or ritualistic behavior of the Cahuilla is essential. Heizer and Whipple note the reported occurrences of the "Jimson-weed (*Toloache*) Initiation" ritual have definitely been recorded in the Coachella Valley region and it is possible that the "Dreamed Singings" ritual, most commonly associated with the Colorado River, may have been practices "according to Mohave interpretation" (1971: 45). It is also probable that the *Chungichnish* form "with sand paintings" were also potentially present in the Coachella Valley area; *Chungichnish* was the primary religious deity for the Luiseño and the Cahuilla (Starr 1985: 9). A distinction is made by Heizer and Whipple in regards to the antiquity of ritual, where more generalized, simple, and broadly practiced ceremonies are considered to be older whereas those two described above are of more recent origin. Examples of broadly practiced rituals includes, but is by no means limited to, the coming-of-age ceremonies for adolescents and the dance of war or dance of victory (Starr 1985: 9; Heizer and Whipple 1971: 44). Unlike their neighbors along the Colorado River, no associated connection has been drawn between cultic or ritual with warfare (Heizer and Whipple 1971).

The practice of astronomy was also among the ritual practice of the ancient Cahuilla, where "ritualistic ground paintings" considered as "sacred cosmographies" that "depicted the earth and the heavens through symbol, especially the Milky Way" (Starr 1985: 9). In a summary fashion, Starr states that [t]he Luiseño-Cahuilla liturgy teemed with various songs, dances, and ceremonial addresses…Songs told of birth, death, season cycles, the creation of the universe" and encouraged good behavior (1985:9-10).

Trails, while overwhelmingly most frequently used for pedestrian transportation, had other uses, including transportation and trade (economic activities), hunting, warfare, and for religious use as well (Becker and Altschul 2008: 420-426). Additionally, ceremonial functions of trails could have provided people greater spiritual security and therefore would have been important to their process of expanding into new territories (von Werlhof 1988). Features commonly associated with trails, and possibly indicative of ritual and ceremony, were trail markers, rock cairns, rock shrines, and petroglyphs (Becker and Altschul 2008:423). Rogers (1966) extensively discusses trails and rock alignments he discovered in his pioneering work in the Colorado and Mojave Deserts, *Ancient Hunters of the Far West*, in which he presents evidence for the existence of cairns, rock shrines, and associated features in proximity to prehistoric trails in desert pavements.

Research Questions:

- Are trails, trail markers, rock cairns, cleared circles, trail shrines, and/or petroglyphs found in association with trails or other resources within the Reservation or the TUA?
- Do ethnographic accounts and Tribal stories help identify criteria important to ritual or ceremony that might be preserved within the archaeological record?
- Does the location of trails correlate with quartz smashes, pot drops, stone cairns, or other features from which ceremonial function might be inferred?
- Can an understanding of Tribal ritual and ceremony obtained through collaboration assist in the interpretation of archaeological sites documented within the Reservation or the TUA?
- How would the practice of ancient astronomy be represented within the archaeological record?
- What are the natural resources and environmental conditions that are associated with ritual and ceremonial practices?

- Could the geographic setting, alignment, or shape of trails and their associated artifacts and features within the Project Area imply functional versus ceremonial usage?

- What changes in burial patterns occur through time?

Data requirements to address these questions regarding ritual and ceremony would be derived from the recordation and mapping of any geoglyphs, petroglyphs, other rock art, rock cairns, cleared circles, trail shrines, and any other feature of cultural origin and for which the function is otherwise unclear. Mapping of trails to the greatest extent practical would also be valuable so that their paths can be analyzed for intentional alignments and correlations with other resources. Taking into consideration Tribal knowledge and ethnographic studies regarding Cahuilla ritual and ceremony, special attention should be given to the identification and documentation of any natural formations, environmental habitats, or environs that may have been prime locations for ritual or ceremonial practice.

5.2.8 Tribal Cultural Land Use and Practice

The Agua Caliente Tribe's current land use and practices extend from its location and economic value. The Tribe built a community building to hold tribal functions such as gatherings, weddings, birthdays, wakes, anniversaries and other activities. In addition the tribe celebrates tribal traditions during *Tamit Enanqa* (Cahuilla Learning Day). This event like many others is held on Tribal land. The tribe manages Indians Canyons Heritage Park. This park is comprised of three Canyons, Palm Canyon which is the home land of the *Achechem* (Good People), Murray Canyon and Andreas Canyon which is the home to the *Pajniktem* (Early Morning People). The tribe also manages Tahquitz Canyon which is home to the *Kawisktem* (the Fox People). These Canyons were set aside as parks and open to the general public. The THPO aids in management of the cultural resources located on these lands and surveys the land, making recommendations for places to be nominated to the National Register of Historic Places. There are two National Register properties which are also Traditional Cultural Properties within these parks: Andreas Canyon and Tahquitz Canyon. These properties were nominated to save the canyon from further development (Patencio 2011).

The Tribe is currently developing a Tribal Historic Management Plan to help manage the resources within the Tribes Influence. The Tribe has several mitigations policies it uses to help protect resources on the ground either on the surface or buried. These policies are used for Mitigations measures include: *Avoidance*: avoid the adverse effects altogether by changing the project in such a way that the cultural resources are no longer subject to impact, *Site Burial*: it might be possible to avoid impacts to cultural resources by burying them sufficiently deep so that the construction of a project will not affect them,

Conservation Easements: it may be possible to deed that portion of the property containing then "important" cultural resource, *Native American Monitoring*: Tribal Monitors from Agua Caliente Band of Cahuilla Indians shall be required on-site during all ground disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc, *Data Recovery*: the likely form of mitigation will be to conduct a full-scale archaeological investigation designed to realize the site's design, *Archaeological Monitoring*: for parcels containing cultural resources an archaeological Monitor be present during any ground disturbing activities related to the project, including construction.

Research Questions:

- Does present-day Tribal ritual or ceremony occur in specific ecological zones where special plants or materials are harvested?
- Can a better understanding of the present-day environment increase our understanding of traditional Tribal land use and its connection to ritual and ceremonial practice?
- Can the listing of Tahquitz Canyon and Andreas Canyon provide sufficient insight into the development of particular areas where more careful attention should be devoted when completing future cultural resource investigations?
- How did the Cahuilla successfully survive desert conditions? How are these adaptive strategies documented in traditional Tribal knowledge and the ethnographic record?
- How and why did technologies change or remain the same? How are changes in technologies different in each life zone?
- How and when did contact impact Cahuilla traditional lifeways? What are the responses to outside influences? How did social dynamics within and between villages change?

Data requirements needed to address such questions involves active collaboration and communication with the Agua Caliente Band of Cahuilla Indians, particularly the THPO. As a result of on-going interviews and their familiarity with Tribal traditions and cultural practice, the THPO may be able to provide information appropriate to the specific project location. Accurate mapping and recordation of artifact types and counts is necessary, particularly within archaeological sites, to support the analysis of relative richness of sites and the specific constituents of the artifact assemblages. Additionally, any potential food remains such as bone and shell should be documented and species tentatively identified as

should any potential prehistoric lakes or stream channels be mapped and analyzed for correlations with the locations of other resources. The Agua Caliente THPO should likewise be contacted to identify whether or not early Tribal residences or properties are known to exist within a project area.

5.3 Historic-Period (Built Environment& Archaeological) Research Questions, By Themes

During the historic period, limited accessibility to the area and to important resources such as fresh water restricted settlement of this area of the Colorado Desert. Mining of California's lucrative mineral resources during the mid-19th Century spurred the movement of European and American populations into this area. Later urbanization by way of the trans-national railroad, various transportation routes, and the development of utility services such as water and electricity opened this area to more active occupation by historic and modern settlers. As is the case with much of the inland areas of Southern California, mining was a major influential factor to the increased historic-period settlement of the desert regions. With the turn of the 20th Century, many were drawn to the Palm Springs area in search of healing and health by way of sanatoriums and therapeutic hot springs. Eventually, the area was discovered by Hollywood which soon resulted in the growth of hotels, restaurants, and other touristic industries or facilities.

Architectural history research domains discuss specific use patterns potentially reflected in the architectural history record such as mining, military use, transportation, regional development, and historic settlement types. Architectural history resources commonly associated with this period are diverse and could include agricultural buildings and structures, buildings (commercial and residential), as well as various evidence of utilities and services development by way of transmission lines, canals, roadways, among others.

5.3.1 Historic-Period Settlement

The utilization of the desert during the historic period was, at first, associated with mining. Due to the remoteness and limited accessibility of resources, permanent settlements were few and far between. Despite this, the ever prominent search for mineral wealth potentially hidden in the remote areas of California brought individuals, as well as more organized mining ventures, to the Colorado Desert. Eventually, the construction of access routes, the establishment of a prosperous mining industry, and the development of essential utilities such as water and electricity during the late 19th and early 20th centuries encouraged an increased settlement of the desert. Located in the Indian Canyons Park, on the Agua Caliente Indian Reservation, is the Andreas Canyon National Register District. Andreas Canyon is comprised of 37 contributing prehistoric and historic sites that span the human occupation of at least 1000 years. Many sites date from the Late Prehistoric Period into the

Ethnohistoric period when the *Paniktum* adopted new technologies and cultural practices after contact with the Spanish, Mexican and Euro-American settlements. Historically the *Paniktum* lineage occupied the canyon as their permanent residential base and ceremonial center and spans the periods of cultural change from prehistory, the implementation of the reservation system and the early modern period as the City of Palm Springs developed in and around the reservation.

Interactions between the native Cahuilla and European settlers had a marked impact on the traditional lifeways of the local populations. As an example of this, the introduction to and adopted use of adobe as a construction material by the Cahuilla is suggested to be evidence of exposure and learned-technology from the establishment of a Spanish a*ssistencia* at San Bernardino adobe. Documentation of such exchange of technology and materials has occurred since the first appearance of Europeans to the inland desert regions of Southern California.

Research Questions:

- How did colonization of California and contact with settlers affect the lifestyle and culture of the Cahuilla?
- What types of Spanish practices were adopted by the Cahuilla and how did those practices affect/change their traditional way of life?
- Did the Cahuilla contribute to the agricultural development of the region? If so, how?
- Have some plants that were traditionally used by the Cahuilla gone today due to development, environmental or for some other reason?
- Is it possible to identify what architectural characteristics were unique to historic-period Cahuilla residences? What evidence exists that could help identify residential structures or complexes common to historic-period Cahuilla communities?
- What are the stereotypical architectural styles present within the region and are any examples of these types located within the Agua Caliente Indian Reservation?
- Who are some of the prominent American architects known to have designed stereotypical styles for the Palm Springs area?
- With the construction of the Spanish *Assistencia* at San Bernardino, what – if anything - did the Cahuilla learn from this new arrival? What other skills or

technologies were leared by the Cahuilla as a result of interaction or exposure to European and later American settlers, and vice versa?

Data required to address these questions will be derived from the documentation of various historical linear features such as canals, channels, and other features associated with water-control or management activity or development of the region for agricultural or settlement purposes. Historical research will also be required to identify key individuals with which such linear features may be associated, individuals such as design engineers, surveyors, or regional mapping expeditions into the area.

5.3.2 HISTORIC-PERIOD MINING

Historically, settlers have been mining in and around the Colorado Desert since the late 19th century, and such sites are frequently demarcated by simple structures and/or land/mining claims (e.g., rock cairns, and/or posts). As discussed by Caltrans in their 2008 publication titled *A Historical Context and Archaeological Research Design for Mining Properties in California*, no major mines existed within the Colorado Desert however "small mines operated along the fringes of the desert floor" (2008: 18). Noticeably absent in the Caltrans research design is the discussion of Native American involvement in mining activities throughout California. There is an old tungsten mine in Andreas Canyon, which is located off the Reservation. This mine was worked by old man Jim Maynard who was a friend of the Agua Caliente and spoke fluent Cahuilla (Siva 2003). Many miners moved into northern Cahuilla territory, but by that time most of the Cahuilla were already gone.

Research Questions:

- How did the influx of miners to the region affect the social and physical landscape? Did mining settlements encroach upon Cahuilla territory and cause conflicts between the settlers and the Cahuilla?
- What are the metal or mineral commodities most prevalent in the vicinity of the Coachella Valley? Where are the more active mine sites generally located?
- Can mining features such as waste rock piles, shafts, adits, processing sites, or other mining property types be identified within the Agua Caliente Indian Reservation or TUA, as defined by Caltrans (2008)?
- Did the miners mine resources originally mined by the Cahuilla? Or vice versa? What were the prominent natural resources that brought historic-period miners to the Coachella Valley?

- Were there any notable Cahuilla miners in the region who worked independently, as individual stake-holders?

- Did the Cahuilla work for the miners? What mines, if any, are known within the area to have been solely operated or worked by Cahuilla miners?

Data required to address these questions will be derived from the documentation of various historical artifacts and features such as structural remains and refuse, sanitary can or refuse scatters or through the documentation other features such as earthen disturbances such as prospecting pits, shafts, roads, mining stakes, rock cairns, and intentionally excavated ditches or depressions, among others.

5.3.3 RAILROAD

In the late 1800s, the Southern Pacific Railroad received control over odd sections of land covering up to 10 miles of acreage on both sides of tracks. "The coming of the railroad had a dramatic impact on the lives of tribal members, especially when the Federal Government gave all the odd-numbered sections of land in the Coachella Valley to the Southern Pacific Railroad in 1860s" (ACBCI home page 2011). By comparison, the ACBCI Reservation was established in 1876 and 1877, receiving the even numbered sections of land in three townships. Cahuilla men from the Reservation and surrounding area were hired to build the railroad, among them Shaman Pedro Chino from Agua Caliente. Through personal communication, Alvino Siva noted that once the railroad went through the area, the pronghorn (*Tenatem*) disappeared and the bighorn sheep (*pa'at*) heard dwindled. Migration patterns for these animals used to cross from the Little San Bernardino's to the San Jacinto and Santa Rosa Mountains, or vice versa, traversing the desert floor and moving from one mountain range to the other. As a result of the construction of the railroad, these migratory patterns were interrupted.

Negative and positive effects were felt throughout the Coachella Valley and the broader Southern California Desert Region as a result of the construction of the railroad. Traditional, native ways of life and subsistence patterns were affected because of the disruption of natural processes and a change to the existing environment. Later, economic and other opportunities were carried to the region by the railroad, helping to contribute to the settlement and development of industry such as mining and agriculture.

Research Questions:

- How did the construction of the Southern Pacific Railroad through the desert impact the boundaries and land use of the Cahuilla territory?

- To what extent were the Cahuilla involved in the construction of the railroad? How did their involvement affect their traditional ways of life?

- What new foods and goods were introduced with the railroad?
- Did the Cahuilla take the railroad from place to place? What were the primary motivational factors that encouraged or discouraged Cahuilla use of the railroad?

Data required to address these questions will be derived from the documentation of various historical linear features such as earthen berms, abandoned railroad grades, and other artifact scatters or features associated with the development of the railroad within the Coachella Valley and Palm Springs area. It is possible that historic-period structures, buildings, or objects are presently in existence that may have association to the early development of the railroad within the region. Historical research will also be required to identify key individuals with whom such features and affiliated remains may be associated as well as to define a generalized chronological list of events that pertain to the railroad and its arrival and effect.

5.3.4 Tribal Recognition/Establishment of Tribal Government & Reservation

Since the establishment of the Agua Caliente Band of Cahuilla Indians in 1876 there has been continuous change and development of the Tribal membership, organization, and Tribal methods of governance, among many others. Observable evidence of this continual evolution and development is illustrated in the ebb and flux of populations as well as the ever changing spatial or geographical boundaries of the Reservation boundary. From the moment of its establishment the Agua Caliente Band of Cahuilla Indians set about organizing its affairs and its resources for the betterment of its people. The development of the Tribe as an independent nation not only resulted in population changes as evidence could also be seen through changes made to the spatial and geographic distribution of the Reservation, over the course of time. Through early studies and oral histories in the area, descriptions of early Reservation communities and its membership are available. The discussion and identification of early settlement sites or villages known or affiliated with the Agua Caliente are likewise abundant in some early 20th Century literature, with the Rincon Village site is but one such example (ASM Affiliates, Inc. 2009). These descriptions offer a glimpse into the history of the establishment of the Tribe and its lands, as are they considered to be an important component to the history of the region.

Research Questions:

- How did the end of the Mexican-American War and the Treaty of Guadalupe Hidalgo impact the status of the Cahuilla?
- Did the establishment of Indian Reservations by the U.S. government resolve the land right issues with the Cahuilla?

- How did the Cahuilla aid/hinder the development of the City of Palm Springs? What role did the Cahuilla play in the development of the tourism industry in Palm Springs?

- How did the construction of large-scale tract homes in Palm Springs increase tensions between the Agua Caliente tribe and the City?

- How did the allotments affect clan and individuals members businesses?

Data required to address these questions will be derived from historical research pertaining to the early Agua Caliente Tribal community, its environs, and its development as a nation since it was recognized in 1876. Data regarding specific architectural styles, native construction techniques, and other built environment features or properties should be recorded, taking note of the location, affiliation with specific individuals or families, and other characteristics that will assist in the categorization of such features and properties. It is possible that historic-period structures, buildings, or objects are presently in existence that may have association to the Reservation or are of particular importance to the history of the Tribe. Historical research will also be required to identify key individuals with whom such features and affiliated remains may be associated as well as to define a generalized chronological list of events that pertain to the Agua Caliente Tribe, the Reservation, and other Tribal lands.

5.3.5 DESERT TOURISM/HEALTH-SPA INDUSTRY

One of the main reasons the Palm Springs area was settled and later became a resort was for the healing mineral waters and the clean warm air. The Agua Caliente (*Palsewichem*-People of the Hot Water) realized the tired travelers and settlers wanted to bathe in the hot mineral spring. The place where the water boiled on the surface was known by the Cahuilla as *Sexhi* (Place of Boiling Water). Early Settlers began naming the place as Palm Valley for all the Palm Trees (*Maulem*) around the mineral water. The Spanish called it Agua Caliente after the hot water encountered there. Eventually the Agua Caliente began charging individuals for the use of bathing in the water. There were 3 separate bath houses built before the current Spa Hotel was built over the mineral spring in 1960. The first was operated by Dr. Wellwood Murray who paid the Tribe $100 for use of the waters. Today the Spa Facility remains a large tourist attraction and keeps locals coming back for the curative powers of the healing waters.

The Indian Canyons today remain a large attraction for the community of Palm Springs and tourists alike. At one point the government wanted to turn canyon and surrounding desert areas into a National Park. The Tribe did not want to lose their land or the ability to manage it as they saw fit. The Tribe opened up the canyons to the public. The Indian Canyons (Palm Canyon, Murray Canyon, and Andreas Canyon are home to the world's largest Palm Oasis

attracting ¼ million people a year. The people no longer live there but remember where they come from. The canyons hold many cultural resources from village sites, rock art site, cemeteries, cremations, prehistoric water features and an array of plants for food and medicine. In addition the Tribe maintains two golf courses for public use.

Research Questions:

- How did the increased interest in spa-based tourism affect the built environment within the Reservation and the outer-lying region?
- What was the perspective of the Agua Caliente membership towards the early influx of Hollywood or Los Angeles "socialite elites" into the region for spa, recreational, or touristic purposes?
- How did Tribal development of tourism industries affect the economy of non-Tribal neighboring communities?
- Did Tribal participation within the tourism industry represent secondary-level or services-based support or did Tribe develop their own tourism-based economy independently from their American neighbors?
- Are there standing examples of historic-period buildings or structures datable to the early development of tourism-based industries within the Reservation?
- To what extent has the management of Tribal cultural resources benefited the Tribe through tourism?

Data required to address these questions will be derived from historical research pertaining to the early Agua Caliente Tribal community, its environs, and its development of tourism-based industries and services. Historical research should result in the creation of a general inventory of key tourism services and industries specifically affiliated with the Tribe. Data pertaining to specific architectural styles and other built environment features or properties should be recorded, taking note of the location, specific service provided, and other characteristics that will assist in the categorization. It is possible that historic-period structures, buildings, or objects are presently in existence that may have association to the development of tourism. Historical research will also be required to identify key individuals with whom such features and affiliated remains may be associated as well as to define a generalized chronological list of events that pertain to the Agua Caliente Tribe, the Reservation, and Tribal efforts to develop its economy through tourism.

6 STUDY METHODS

To identify and define the theoretical orientation and research objectives, a comprehensive review was made of archaeological, anthropological, historical, and ethnographic reports and publications, historical maps, through direct inquiries to other historical organizations and agencies, and through the implementation of a structured interview process of key Tribal Members and Staff by the Tribal Historic Preservation Office (THPO). Study methods included the review of various maps, scholarly and professional investigative reports, specific historic preservation management plans and other documentation obtained and provided by the Agua Caliente THPO, interview results and Tribal Knowledge also as obtained and provided by the Agua Caliente THPO, and other academic or scholarly publications and journals publically available online or at local libraries. Research materials were identified through local libraries, local and regional museums and interpretive centers, and online websites. Online sources may include (but are not limited to) the Calisphere Digital Resources, Online Archive of California, Government Land Office Plat Maps, Sanborn Fire Insurance Maps, local historical societies and libraries, private collections, and files and data on-file with URS. As part of the online research, a review of properties listed on/as areas of importance to the Tribe or on various state and local registries was also incorporated into the study methods for the development of this research design.

For this project the THPO has interviewed tribal members, members from surrounding tribes and other key community members such as archaeologist and ethnographers and leaders. A questionnaire was created for the purpose of these interviews, totaling five pages in length and consisting of fifteen questions. A list of people to be interviewed or participate in the survey was formulated by Mr. Sean Milanovich based upon a personal knowledge of individuals known to have an interest in cultural resources. Those individuals listed ranged from Tribal Council members, to persons on cultural committees, and those affiliated with the Agua Caliente Cultural Museum. Originally the Agua Caliente THPO office sent the interview by mail to all Tribal members, though only two completed surveys were received after a couple of months. Announcements at tribal meetings were then made, on and off the reservation, with the hope of generating interest and encouraging participation. Mr. Milanovich, as a representative from the THPO, met first with Agua Caliente Membership in a Tribal Council meeting and then the Tribal Historic Preservation Advisory Board and the Cultural Preservation Committee. Mr. Milanovich also met with other tribes and made presentations to departments and offices in an attempt to foster interest and hence increase participation.

Included with the survey was a consent form for participants to sign. Completion of this consent form was mandatory for participation, as was clearly stated on the form. This form asked people if they wanted to physically complete the paper version of the survey only, complete the survey using voice recorder only, or if they preferred to complete both

simultaneously. As a further attempt to reach participants for this survey, Mr. Milanovich called members individually which generated additional response. Potential participants were likewise invited to complete the survey in person. Those individuals that selected this option met Mr. Milanovich at a location convenient to them. Sometimes the completion of the survey or questionnaire would take place over the phone. In these cases, every question was read by Mr. Milanovich in order to generate discussion.

Through these research methods and in close collaboration with the THPO and THPO staff, guided by the principles and theories proposed by such sub-disciplines as Indigenous and Community Archaeology, this research design was developed to assist the THPO in the identification of common archaeological and built environment properties that may potentially be present within the Agua Caliente Indian Reservation as well as Tribal TUAs. Important goals and research areas requiring special attention or discussion were also identified through the implementation of these study methods, as well as data gaps, state and federal priority areas, current scholarly theoretical conclusions regarding prehistory within the Tribe's TUA, and the identification of existing contradictions to these scholarly hypotheses.

7 Research Priorities

As the purpose for this research design is primarily as reference or guidance for those who may be facing future cultural resources management investigations or efforts within the Agua Caliente Indian Reservation and TUA, research priorities should be individually addressed according to the scale and scope of a particular project. Depending upon the size and type of project that is being proposed, specific research priorities must be developed in addition to a sound research design. Researchers, future planners, and other interested persons can use this research design as a source of reference only. The research priorities for a small, inventory-level investigation may differ significantly from a larger, data collection effort. This being the case, it is beyond the scope of this research design to prescribe specific research priorities.

8 Implementation of Research

With regards to the implementation of research, it is repeated that the current research design represents a source of reference and guidance for future professionals who may be faced with cultural resources investigations or studies that are to occur within the Agua Caliente Indian Reservation or TUA. As such, the criteria for the implementation of research will differ, depending upon the scale and scope of an individual project. Generally, it can be said that this research design, as an advocate for the fostering of a collaborative research environment, does propose open and early communication with the Agua Caliente

THPO representative in order to make use of the THPO office's collection of cultural resources known or recorded within their lands as well access to traditional Tribal knowledge which may be of added value to the future researcher.

The theoretical, geoarchaeological aspect to this research design likewise leads to the recommendation that part of the implementation of research involve the inclusion of a geomorphic assessment of areas to be potentially developed by a geoarchaeologist, in an attempt to better understand the processes which may be involved in site formation and potentially aide in the identification of probable site locations. Further coordination with the Agua Caliente THPO or THPO representative is necessary so as to identify ways in which data resulting from future research and the implementation of said research is collected. Keeping in mind the concept of community and *indigenous archaeology*, data collection strategies for future projects within the Agua Caliente Indian Reservation or TUA should be recorded in such a way as to contribute some data to the THPO's GIS Register. The information provided by the GIS Register to the research community may serve as an additional, standard source and efforts should be made to incorporate the information housed in this repository into future study.

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10 GLOSSARY

ACBCI is the Agua Caliente Band of Cahuilla Indians, a federally-recognized tribe established in 1876 with lands interspersed with the Coachella Valley communities of Palm Springs, Cathedral City, and Rancho Mirage.

Agua Caliente Cultural Register is the Tribe's central and secure and confidential repository for the storage of cultural and historic information and materials relevant to cultural resource management and historic preservation within the Agua Caliente Indian Reservation and its Traditional Use Area. Records may include maps, site records, cultural resources inventory reports, and a reference library.

AIRFA is the American Indian Religious Freedom Act of 1978 (42 USC 1996 and 1996a), a joint resolution of Congress expressing a policy to respect and protect the inherent right of Indian tribes to exercise their traditional religions.

Antiquities Act of 1906, as per Title 16 of the United States Code, Sections 431-433, establishes criminal penalties to protect, and provides authorization for scientific investigation through the acquisition of necessary permission of, cultural resources on Federal lands. This act likewise permits the President to set aside public lands as National Monuments or to receive private lands donated for the purpose of designation as National Monuments.

APRA is the Archaeological Resources Protection Act, a federal law passed in 1979 (16 USC

470aa-mm) that requires a permit before any archaeological excavation is allowed on public lands, including tribal land. This law makes unlawful (unpermitted) excavation a crime and is used in cases of vandalism or unauthorized damage to archaeological sites.

Archaeological Resources Protection Act of 1979 (ARPA) Under Title 16 of the United States Code Section 470aa-470mm, this act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land.

Archaic Period is the term used to define human occupation in North American prehistory between 5,000 B.C. and A.D. 500. This period is characterized by the emergence of several distinctive regional adaptations to varying local conditions. In the western deserts, the Archaic spans the time from the end of cooler and wetter climatic conditions of the early Holocene, at around 5,000 B.C., to the introduction of pottery and bow-and-arrow technology, around A.D. 500

Built-Environment (Architectural History) consists of property types represented by any standing, currently functioning, buildings or structures that are older than 45 years in age or are associable with significant individuals or events in history, particularly with regards to the history of the region or of the state.

California Environmental Quality Act (CEQA). CEQA is the primary state-level regulatory framework governing the development of lands and the management of effects such development will bring to the California resources. Under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources.

Cultural Resources Management (CRM) is a field of study born as concern and preservation interests within the United States evolved after the turn of the 20th century and representing professionals composed primarily of archaeologists and historians focused on compliance-oriented studies, impact identification, assessments, and mitigation efforts geared towards the identification, treatment, and protection of national, state, and local cultural resources and heritage

Curation in this document means the permanent storage of cultural items in a museum or other secure setting.

EO 13007 of 1996, "Indian Sacred Sites," requires federal agencies to accommodate access and ceremonial use of sacred sites, avoid adverse effects to sacred sites, maintain confidentiality of information, and notify tribes of potential effects to sacred places.

Ethnography or Ethnographic Archaeology represents one of many social research approaches to archaeology intended to encourage the firsthand study of society and culture in an engaged fashion through a well-developed research strategy through which the

ethnographer engages, directly or indirectly, with their research subjects to obtain data. A wide array of techniques can be used to collect ethnographic data, including interviews, the observation of actions or habits, the review of documentary evidence, structured scientific experimentation, and standard research methods, among others

Geoarchaeology represents a relatively new field of study that is predominantly interested in the context within which archaeological remains are discovered, particularly within the geological contexts including soils, sediments and landforms as well as the role such concepts play in the formation process.

Historical Archaeology generally represents a field of study for those archaeologists who are particularly interested in the study of periods for which written records are available.

Historic Period is the general term used to describe the period in Californian history that is characteristically separated into three sub-periods, beginning with the arrival of Spanish explorers in the late 1500s through the Spanish Period (1542-1821), the Mexican Period (1821-1848), and the American Period (1848-1900).

Historic Property is any district, site, building, structure, or object included or eligible for inclusion in the National Register of Historic Places.

HSA is the Historic Sites Act (1935) appoints the Secretary of the Interior as the responsible party for the establishment of the National Survey of Historic Sites and Buildings and for instituting the US government relationship with cultural resources preservation. Central to this act was the concept that, regardless of the originator and whose ancestors they may be, cultural resources are important to the entire nation

Indigenous Archaeology is "archaeology that is done either by, with, or for indigenous peoples" (2006: 49).

Late Prehistoric/Protohistoric Period is the term used in reference the period of approximately A.D. 500 until the American appearance into the area at the turn of the 19th century. The *Protohistoric Period* encompasses a protracted 300-year period of sporadic European exploration and colonization during which aboriginal lifeways continued in the southern California deserts.

Modern Reservation Period is the general term used to describe the history of the Coachella Valley and the ACBCI Reservation spanning from the end of the Historic-Period and continuing through modern times.

Monitoring is a precautionary activity performed by Native American Cultural Monitors, or Archaeologists accompanied by Native American Cultural Monitors, where the possibility

of archaeological features, deposits, or objects being uncovered in the course of development work, or archaeological excavations, is considered to be possible.

Mitigation is treatment that attempts to minimize the adverse effects of an undertaking on a cultural resource. The preferred treatment is preservation, but that is not always possible. Other mitigation measures may include recovery and reinterment of burials, data recovery by excavation, and collection of oral histories.

NAGPRA is the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.). It has two major components. The first outlines a process for repatriation to tribes of human remains, funerary objects, and items of cultural patrimony in existing museum and university collections. The second component covers situations in which human remains are uncovered either inadvertently or as a result of intentional excavation.

NEPA is the National Environmental Policy Act of 1969 (42 USC 4321, and 4331-4335), which requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. Impacts to cultural resources must also be considered.

NHPA is the National Historic Preservation Act of 1966 (16 USC 470 et seq.), which created a historic preservation program within the National Park Service, authorized and helped to find state programs (SHPO), requires identification of cultural resources on all federal lands (including tribal lands), created a National Register and guidance for determining which sites are eligible for that list of historic places, and requires all federal agencies to take cultural resources into consideration when planning potentially land-disturbing projects (undertakings). In 1992 an important amendment to this law authorized and helped to fund tribal programs (THPOs) that could assume the responsibilities of state programs on their own tribal lands.

National Register Bulletin 38 (1990, revised in 1992 and 1998) was issued by the National Park Service to guide researchers and land managers in identifying and evaluating Traditional Cultural Properties (TCPs).

National Register of Historic Places (36 CFR Part 60) is a list maintained by the National Park Service of properties that have been found to have cultural or historical significance at the local, state, or national level, and that retain their integrity (have not been altered so that their significant character can no longer be recognized). Similar state and local registers are maintained in California. Section 106 refers to Section 106 of the National Historic Preservation Act, which (among many other things) requires consideration of the impact on cultural resources of any undertakings (see below) under federal purview. Because of Section 106, archaeological survey is required prior to many land-disturbing

activities, and if significant places are found that could be adversely affected by the undertaking, treatment measures such as data recovery or monitoring may be required.

Paleoindian is the term referring to the period of human culture in North American dating from ca. 10000 – 6000 cal. B.C. (Martinez et al. 2008) and therefore spanning the Late Pleistocene and Early Holocene.

Public or "Community" Archaeology is related to indigenous archaeology, as a field of study endeavoring to achieve collaboration between local populations and the archaeologist investigating that population or its history. This branch of archaeological study Imperative to this form of archaeology is, firstly, the identification and recognition of the stake-holder(s) or community(-ies) that may be or may wish to be involved. Once the stake-holders or the target communities have been identified, the second imperative is the active exchange of information between these communities and the archaeological or research community (Geurds 2007).

Prehistoric Period is the general term typically used to define the period of human occupation in North American from the first appearance of people on the continent during the Paleoindian Period (10,000-5,000 B.C.) , through the Archaic Period (5,000 B.C.–A.D. 500), and ending with the Late Prehistoric/Protohistoric Period (A.D. 500–CA. A.D. 1850).

Significance. The NHPA (see above) recognizes four basic types of significance: (a) connection with important people, (b) connection with important events, (c) embodying a particular style or quality of workmanship, and (d) has yielded or has the potential to yield important information on the past. Another type of significance was outlined in National Register Bulletin 38: significance derived from the role the property plays in a living community's historically rooted beliefs, customs, and practices. These latter places are known as TCPs (see below).

Traditional Cultural Properties (TCPs) can be a district, site, building, structure, or object associated with the cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural identity of the community. TCPs may be eligible for inclusion in the National Register.

Traditional Use Area (TUA) is the lands traditionally used by tribes before those lands were taken by the federal government, private interests, etc. The boundaries of a tribe's TUA are not precise, but the area is marked by burial grounds, former villages and homesites (most are now archaeological sites), sacred places (springs, hills, etc.), resource gathering areas (herbs, medicines, food, minerals, salt, etc.),hunting areas, trails, and so on.

Tribal Historic Preservation Officer (THPO), the establishment of which is mandated in 1992 amendments to the NHPA as a means to encourage and increase participation by Native

populations in the preservation process. This office, once recognized and established, can assume the responsibilities of the State Historic Preservation Office (SHPO) for cultural resources present on tribal lands.

Undertaking refers to any federal licensed or permitted project, whether on tribal, federal, or other land, that has the potential to affect cultural resources.

APPENDIX D:
QUALIFICATIONS

Nina Jimerson-Kidd

Wildlife Biologist

Mrs. Jimerson-Kidd has over 15 years' experience in conducting herpetological, entomological, avian and botanical surveys. Her experience includes inventorying both plants and wildlife of southern and central and northwest California. She has experience in raptor trapping, handling, survey techniques, and nest monitoring, as well as some experience with mammal trapping. She also has extensive experience with small mammal identification. Mrs. Jimerson-Kidd has conducted numerous focused surveys or habitat assessments for California gnatcatcher, desert tortoise, least bell's vireo, flat-tailed horned lizard, burrowing owls, western spadefoot toad, Delhi-sands flower-loving fly, Arroyo toad, and Quino checkerspot butterfly. Additionally, her experience includes habitat assessments and focused for sensitive plants species, particularly desert species.

Education

BS, Natural Resources Planning & interpretation/ Ecology, Humboldt State University- 1998

Permits

- Federal Bird Marking sub-permit: 22951-C
- Flat-tailed Horned Lizard handling MOU (BLM)
- Scientific Collection Permit: 801128-03
- Federal 10A(1)a permit #036550-4
  Coastal California Gnatcatcher
  Quino Checkerspot Butterfly

Professional affiliations

- Wildlife Society
- Association of Field Ornithologists
- Raptor Research Foundation
- Society for the Study of Amphibians and Reptiles
- California Native Plant Society

Continued Education

Desert Tortoise Council Workshop 10/01
Tortoise Egg Handling and Burrow Construction Certificate 10/01
South Western Willow Flycatcher Workshop 5/01
So. Coast Missing Linkages Project Symposium 8/02
Bats of the Southwestern Desert 5/02
Burrowing Owl Symposium 10/03
California Tiger Salamander Workshop 4/13
California Manual of Vegetation CNPS workshop 1/15
Rapid Assessment/Releve Training (CNPS) 6/15

Job History

Kidd Biological, Inc. 2000- Present. Principle Biologist. Conduct Biological; assessments, focused surveys for sensitive species, project management, mitigation monitoring, restoration monitoring. On-going research of bird of prey in California.

Michael Brandman Associates. 2002- 2005. Project manager/Ecologist. Project Management, biological assessments, focused surveys, mitigation monitoring. Supervised 3-5 employees as well as sub-contractors. Assisted with Community outreach and education programs.

Humboldt State Museum of Vertebrate Zoology. 1996-1998**.** Assistant Curator. Managed and maintained museum specimens and catalogs, prepared new specimens, assisted researchers in locating relevant specimens from within the museum as well as locating and obtaining loans from other museums world-wide.

Humboldt County museum of Natural History. 1996-1998. Museum Assistant. Designed and created displays, managed collection, assisted with newsletter, created and taught children's classes and summer day camp, manned museum gift shop, organized and trained volunteers.

Select Professional Experience

Focused Surveys, California Gnatcatcher. Assisted in conducting a focused survey for the California gnatcatcher. The survey was conducted to determine the presence and location of any individuals or pairs of gnatcatchers within a 1000-acre parcel located in San Mateo County Park, Orange County, CA. Twenty-nine pairs of gnatcatchers were identified during the 2001 surveys. Participated in 2010 census surveys on Marine Corp Base Camp Pendleton.

Prepared an RMP for County of San Bernardino. Resource Management Plan was prepared for 13,000 acres in the Mojave Desert. During the surveys of the lands, numerous desert tortoise and burrowing owls as well as other sensitive species were observed. The plan focused on the minimizing efforts of a low-density housing project on sensitive species in the Mojave Desert. (2003)

Burrowing Owl Relocation. Coordinated with CDFG and USFWS to actively translocate one pair of burrowing owls from a project site in the City of Fontana to a conservation site on U.S. Naval Station, Seal Beach. Assisted in the trapping and release efforts as well as monitoring of the site during grading.

Assist in on-going Burrowing Owl research. Assists annually in capturing and banding of juvenile burrowing owls on a conservation site on U.S. Naval Station Seal Beach. Data is used to calculate nest success rates, particularly of translocated birds.

Managed biological studies for proposed wind turbine project. Managed 10 biologists and conducted migratory bird surveys, plant surveys and desert tortoise surveys for a 7 square mile proposed wind farm in the Mojave Desert. 2004-2005

Construction monitoring. Has monitored grading and other construction activity on numerous projects including cellular communications towers, military training facilities, County road maintenance, linear fiber-optics lines, park trails, large housing developments, and restoration activities. Species monitored include California gnatcatcher, least Bell's vireo, arroyo toad, desert tortoise, burrowing owl, nesting birds, flat-tailed horned lizard, and general wildlife.

Focused Surveys, Arroyo Toad. Conducted presence/absence surveys as well as pit-fall trapping in Camp Pendleton USMCB and San Mateo County Park in San Diego County, CA. Over 1000 Arroyo Toads were detected as well as egg strands, tadpoles and metamorphs during the 2001 surveys. Since then numerous surveys have been conducted for the toad in San Diego and Orange Counties.

Consultation with CDFG. Successfully completed 2081 permit applications for take of desert tortoise on a project in the Mojave Desert as well as a take permit for Mohave ground Squirrel in Victorville. 2003-2005.

Quino Checkerspot butterfly Surveys. Over the past decade, approximately 12 sites have been surveyed for the endangered butterfly. Survey areas included Northwestern Riverside County to southeastern San Diego County. Two power line projects were part of these surveys and required extensive area surveys. Additional surveys have been conducted for the BLM and the U.S. Forest Service for fire maintenance. In 2010, QCB were observed near Mount Palomar.

Lee Brewer
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SUMMARY OF EXPERIENCE

LEE BREWER IS A PROGRAM MANAGER WITH OVER EIGHT YEARS OF EXPERIENCE SPECIALIZING IN ENVIRONMENTAL INVESTIGATIONS, SITE ASSESSMENTS, AND NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REVIEWS FOR THE TELECOMMUNICATIONS INDUSTRY. MR. BREWER ALSO HAS EXPERIENCE CONDUCTING LIMITED PHASE II INVESTIGATIONS INVOLVING LEAD IN SOIL, LEAD PAINT, AND ASBESTOS. THESE ASSESSMENTS HAVE BEEN PERFORMED TO EVALUATE SITE CONDITIONS, POTENTIAL LIABILITIES, AND SITE REMEDIATION COSTS IN ORDER TO ADVISE PROSPECTIVE BUYERS, CURRENT OPERATORS, AND OWNERS OF POTENTIAL AND EXISTING ENVIRONMENTAL CONCERNS.

RELEVANT PROJECT EXPERIENCE

ENVIRONMENTAL SITE ASSESSMENTS: MR. BREWER HAS CONDUCTED ASTM AND CLIENT-SPECIFIC PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS AND PREPARED PHASE I COMPLIANCE REPORTS FOR PROPERTIES LOCATED THROUGHOUT THE MID-ATLANTIC, NORTHEAST, SOUTHEAST, AND MID-WEST REGIONS. THESE PROPERTIES HAVE INCLUDED COMMERCIAL, RETAIL, RESIDENTIAL, MUNICIPAL, AGRICULTURAL, AND TELECOMMUNICATIONS PROPERTIES.

NEPA SCREENING REPORTS: MR. BREWER HAS PREPARED NEPA SCREENING REPORTS FOR TELECOMMUNICATIONS SITES THROUGHOUT THE MID-ATLANTIC, NORTHEAST, AND SOUTHEAST REGIONS. MR. BREWER HAS ALSO REVIEWED NEPA SCREENING REPORTS FOR TELECOMMUNICATIONS SITES THROUGHOUT THE UNITED STATES. THESE REPORTS ENSURE COMPLIANCE WITH FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS UNDER NEPA AND INCLUDE AN ANALYSIS OF HISTORIC PROPERTIES, WETLANDS, ENDANGERED SPECIES HABITATS, FLOODPLAINS, AND OTHER SENSITIVE AREAS OF ENVIRONMENTAL CONCERN WHERE THERE IS THE POTENTIAL FOR IMPACT FROM THE INSTALLATION OF CELLULAR EQUIPMENT.

EDUCATION

B.A., ENVIRONMENTAL STUDIES, UNIVERSITY OF PITTSBURGH, PENNSYLVANIA

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENTS FOR COMMERCIAL REAL ESTATE
EPA/AHERA CERTIFIED ASBESTOS INSPECTOR

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environmental | engineering | due diligence

Trevelyn Carvino
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SUMMARY OF EXPERIENCE

Trevelyn Carvino is an Assistant Technical Director specializing in NEPA environmental reviews, as well as Phase I Environmental Site Assessments and FAA Studies for the telecommunications industry.

Ms. Carvino has conducted and managed numerous environmental pre-acquisition assessments/due diligence assignments for a wide range of properties through the Northeast, and has also conducted field work in the states of Michigan and Missouri. These assessments have been performed to evaluate site conditions, potential off-site liabilities, historic site and vicinity usage, and environmental control systems in order to advise perspective buyers, current operators, and owners of potential and existing environmental concerns.

RELEVANT PROJECT EXPERIENCE

ENVIRONMENTAL SITE ASSESSMENTS

Ms. Carvino has successfully completed ASTM Phase I Site Assessments and Preliminary Environmental Site Screenings. Ms. Carvino has conducted ASTM Phase I Environmental Assessments for a variety of properties located throughout the Northeast region, and has also completed assessments in Michigan and Missouri. These properties have included commercial, municipal utility, retail, single and multi-family residential properties, as well as existing telecommunications sites. ASTM investigations include correspondence and evaluations with federal, state, and local government offices.

NEPA ASSESSMENTS

In addition to environmental site assessments, Ms. Carvino prepares and manages NEPA reviews and Environmental Assessments for telecommunications sites throughout the Northeast region, and has also completed assessments in Michigan and Missouri. Ms. Carvino has helped clients facilitate the environmental review process to ensure compliance with Federal Communications Commission (FCC) requirements under the National Environmental Policy Act (NEPA). Environmental reviews include analysis of historic properties, wetlands, endangered species habitat, floodplains, and other areas of environmental concern and the possible impacts of cellular installations on these sensitive areas.

FAA STUDIES

Ms. Carvino currently coordinates EBI's FAA Program, including screening sites using the Airspace® and TERPS programs and the TOWAIR website, and completing form 7460-1 filing and follow-up documentation with the FAA.

CLIENT MANAGEMENT

Ms. Carvino has worked as a NEPA and Environmental project manager for clients including AT&T Mobility, Bechtel Communications Inc, SAI Communications Inc, Moblitie, T-Mobile Northeast LLC, Sprint-Ericsson, and vtel Wireless, Inc since 2008. She has completed and audited over 2,000 NEPA assessments throughout the United States. She has also performed

and coordinated hundreds of Phase I and Phase II Site Assessments and Visibility Studies, and has coordinated geotechnical investigations and archaeological and endangered species surveys.

EDUCATION

B.S. Biology: Ecology Evolution and Behavior
Minor: Environmental Resource Economics
Summa cum laude University of New Hampshire, Durham, New Hampshire
M.E.M. Master of Environmental Management
Duke University, Durham, North Carolina

PROFESSIONAL REGISTRATIONS

RF Site Safety Awareness Training, November, 2008
OSHA 29 CFR 1910.120 40-hazardous waste site operations (HAZWOPER) training, April 2006
Annual OSHA HAZWOPER refresher trainings
Asbestos Inspector, January 2007 with annual refresher trainings

EBI Consulting
environmental | engineering | due diligence

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SUMMARY OF EXPERIENCE

Christopher W. Baird is currently EBI Consulting's Technical Director overseeing work related to the National Environmental Policy Act (NEPA). Mr. Baird has over nine years of experience in the environmental industry specializing in NEPA, Tribal Consultation, Environmental Site Assessments, and Property Condition Assessments. In addition, Mr. Baird has extensive experience conducting and overseeing subsurface investigations, property condition surveys, and asbestos, lead and mold inspections.

RELEVANT PROJECT EXPERIENCE

NEPA ASSESSMENTS: As EBI Consulting's NEPA Technical Director, Mr. Baird is responsible for developing and implementing policies and protocols to ensure EBI's compliance with applicable environmental regulations under NEPA. Mr. Baird researches and interprets local, state, and federal environmental regulations as they pertain to NEPA, and assists clients by facilitating the environmental review process for their telecommunications tower installations in accordance with the Federal Communications Commission's (FCC) requirements under NEPA. Mr. Baird also acts as a liaison between clients and regulatory bodies at the local, state, and federal levels, including, but not limited to, state environmental departments, local and state historic preservation commissions, and the United States Fish and Wildlife Service. Mr. Baird also acts as a primary liaison between clients and representatives of the sovereign nations of federally recognized Native American Indian Tribes, when consulting on the proposed construction of telecommunications infrastructure on potentially culturally or historically sensitive properties.

ENVIRONMENTAL SITE ASSESSMENTS: In addition to overseeing EBI Consulting's NEPA-related work, Mr. Baird has conducted over five hundred environmental assignments for a wide range of properties including filling stations/bulk storage facilities, and industrial, commercial, agricultural, retail, and residential properties. These assessments were performed to evaluate site conditions, potential off-site liabilities, environmental control systems, and site remediation costs in order to advise prospective buyers, operators, and owners of potential and existing environmental concerns. Mr. Baird has successfully completed ASTM Phase I Site Assessments for various nationwide lending institutions throughout the United States and the Micronesian Island of Guam.

SUBSURFACE INVESTIGATIONS: Mr. Baird has also completed subsurface investigations at commercial and residential properties throughout the United States. Subsurface Investigations have included the removal and proper closure of underground storage tanks, the installation of soil borings and groundwater monitoring wells, and the sampling of environmental media.

EDUCATION

B.S. Environmental Science, Acadia University, Nova Scotia, Canada

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

OSHA 40-hour hazardous waste operations (HAZWOPER) certification
ACOE wetland delineation and management certification program