ENVIRONMENTAL ASSESSMENT FOR THE LA JOLLA SEPTAGE TREATMENT SYSTEM IMPROVEMENTS PROJECT

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1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to comply with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) NEPA regulations (40 CFR §1500-1508), and U.S. Environmental Protection Agency (EPA) procedures for implementing NEPA (40 CFR Part 6), which require an evaluation of potential environmental effects prior to the approval of the release of funding for a proposed construction project. This EA documents the environmental review of a proposal to replace an existing unlined septage treatment pond (evaporation pond) that handles pumped and trucked effluent on the La Jolla Indian Reservation (Reservation) with a larger and more advanced septage treatment facility. The purpose of the proposed action is to protect the watershed of the San Luis Rey River and address other environmental concerns associated with the existing septage treatment pond. The EPA is the principal Federal agency with jurisdiction over water quality issues on Indian lands. The EPA will therefore use this EA to determine if approval of the proposed septage treatment facility project would result in significant adverse effects to the Human Environment.

The La Jolla Band of Luiseño Indians (Tribe) has requested funding from the EPA to address an inadequate disposal system for pumped septic waste (septage) on the Reservation. Septage is the liquid and solid material pumped from a septic tank, cesspool or other primary treatment or collection source. Septage is highly variable and organic, with significant levels of grease, grit and debris. It has an offensive odor and appearance and is a host for many disease-causing viruses, bacteria and parasites. Septage is much more concentrated than typical domestic sewage.

The purpose of this EA is to enable the EPA to make a decision whether or not to fund construction of the proposed project with up to $300,000 of funds available from EPA's Tribal Border Infrastructure Program. These funds would be used to address the most immediate environmental and public health concern on the Reservation, the disposal of septage pumped from three restroom septic systems within the La Jolla Campground, approximately 93 Port-a-Potties within the campground, and 144 residential septic systems. Construction and operation of the proposed project would result in minimal disturbance to the environment and would improve public health and environmental conditions associated with the disposal of wastewater on the Reservation.

The project site is located on the south side of the Reservation, south of the San Luis Rey River and the base of Palomar Mountain, in San Diego County, California. The La Jolla Reservation is approximately 26 miles east of Interstate 15 and is accessible via State Route 76 (Figure 1). The project site is located within Sections 26 and 35 of Township 10 South, Range 1 East, as shown on the Palomar Observatory, California USGS 7.5' Quadrangle (Figure 2).

Figure 1
Regional Location Map

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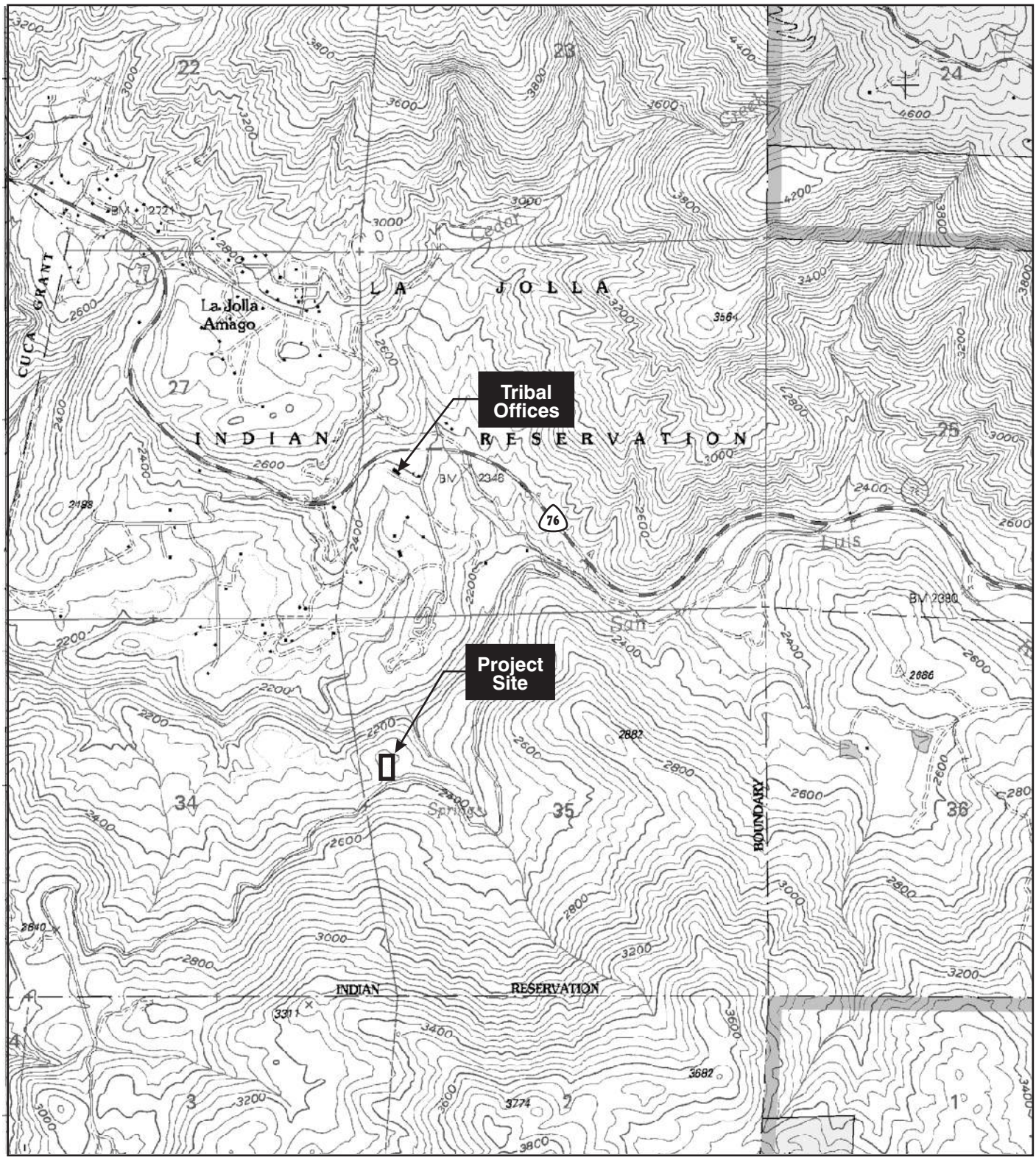

SOURCE: USGS 7.5' Quad Map - Palomar Observatory

Figure 2
Project Location Map

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1.1 Proposed Action

The proposed action is EPA approval of a grant of up to $300,000 to the Tribe for environmental review, engineering and design, and construction of an improved septage treatment facility, including construction and operation of the recommended facility. All project details are contained in the *La Jolla Septage Treatment System Improvements Technical Memorandum* prepared by Nolte Engineering (May 2006).

The project site is the site of an existing fenced and gated unlined septage pond and is located in a remote location on the Reservation. The proposed septage treatment facility would retain the existing septage pond for emergency storage and would involve the construction of two new evaporation ponds, two new fermentation pits, and a truck pad and screening facility with a dumpster for disposal of screened materials. The Area of Potential Effect (APE), defined as the total area that would be impacted by permanent facilities and temporary construction activity, would be approximately 250 feet by 350 feet. This APE totals approximately 2.0 acres and includes the existing fenced and gated unlined septage treatment pond and surrounding area. Figure 3 provides the conceptual project design on an aerial photograph of the project site and Figure 4 provides a preliminary grading plan.

1.2 Project Background

The Tribe has been pursuing funding for the proposed action since the 1993 overflow of the existing septage disposal pond during a period of unusually heavy rainfall. During that time the Tribe has investigated four potential project sites on the Reservation for the construction of the proposed septage treatment system improvements. Two sites, Chimney Flats and Cienega Flats, were dismissed by the Tribe due to recurring problems with erosion along the access road and the difficulties this presents for the septage haul trucks. The Tribe directed project engineers to investigate two additional sites, the existing campground and the existing septage disposal site, as the proposed project site.

The campground site is located in a canyon north of the Tribe's campground offices. The campground site has the advantage of being closer to the source of the septage, which would reduce trucking times and costs, and of being close to electricity, which would allow for more advanced treatment of the effluent than can be provided in evaporation ponds. However, the campground site is within a side canyon featuring Cedar Creek and associated riparian vegetation. The Tribe was concerned by the lack of level ground and proximity to sensitive riparian vegetation. The Tribe also expressed concerns regarding public health, odors, and water quality impacts associated with the close proximity to campsites, Cedar Creek, and the San Luis Rey River. Septage evaporation ponds were determined to be incompatible with existing natural resources and land uses at this location.

The Tribe ultimately selected the existing septage disposal site due to its remote location, existing level area that would require minimal grading, existing road access, and existing land use as a septage disposal site.

SOURCE: Nolte

Figure 3
Conceptual Septage Treatment Facility

N

0 40 80
FEET
Approximate Scale

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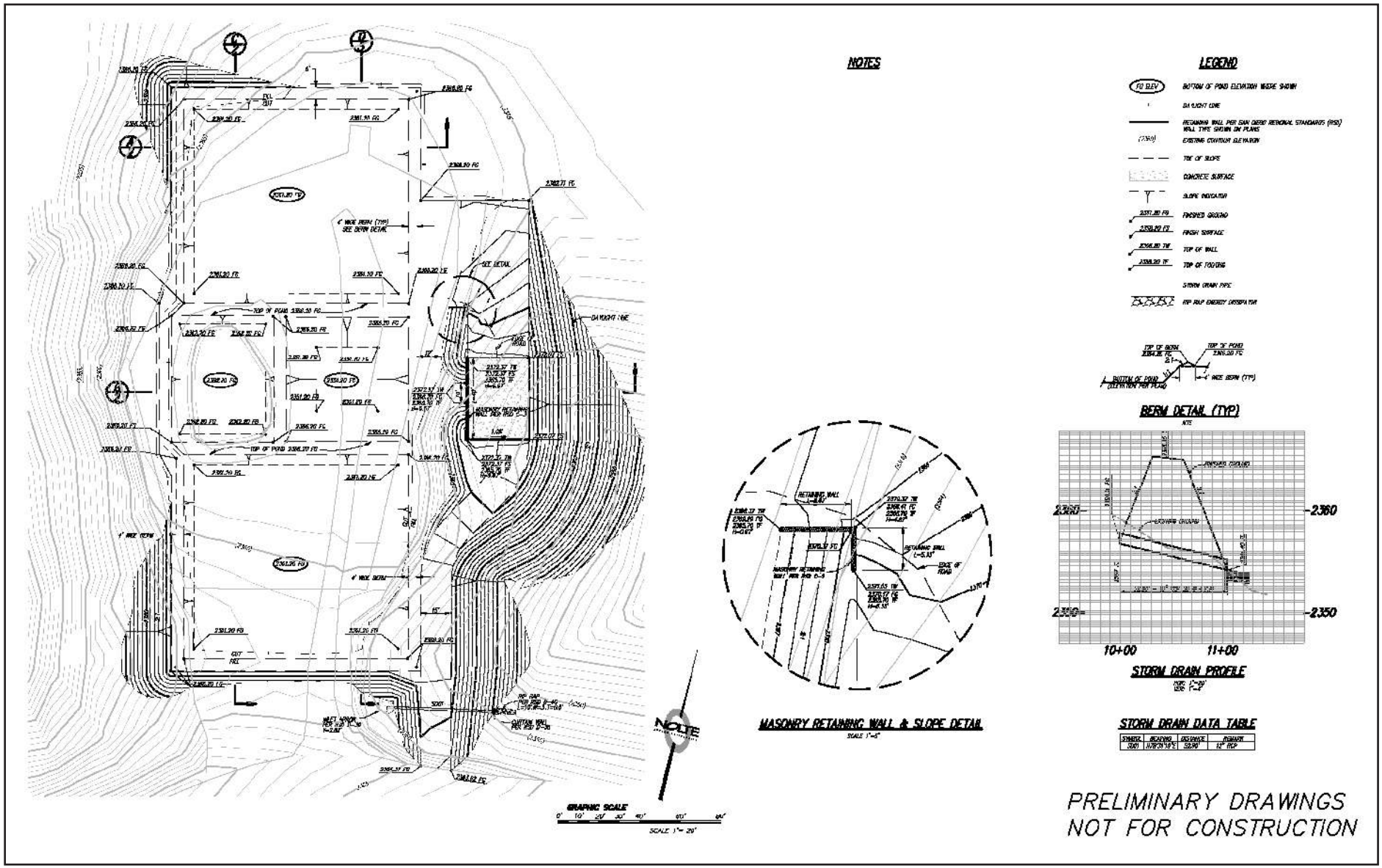

SOURCE: Nolte

Figure 4
Conceptual Grading Plan

0 35 70
FEET
Approximate Scale

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Project engineers have investigated three approaches to the disposal of septage on the reservation: Evaporation Ponds; an Advanced Integrated Wastewater Pond System (AIWPS); and a Sequential Batch Reactor (SBR). The SBR and AIWPS approaches require electricity, which is available at the campground site, but is not available at the existing septage disposal site and would be prohibitively expensive to extend to that site. The campground site would not be appropriate for evaporation ponds or an AIWPS due to health and odor concerns associated with the proximity to campers and water quality concerns associated with the proximity to a perennial stream, Cedar Creek. Table 1 provides a summary of the treatment options and project sites that were considered.

Table 1 - Treatment Options and Potential Project Sites

	Campground Site	**Existing Pond Site**
Evaporation Ponds	No	Yes
Advanced Integrated Wastewater Pond System (AIWPS)	No	No
Sequencing Batch Reactor (SBR)	Yes	No

Evaporation Ponds – Evaporation ponds are shallow basins with impermeable liners of clay, concrete, or similar materials. Effluent is emptied from tank trucks. Solids settle to the bottom, trash floats to the top, and the liquid evaporates. The solids and trash eventually decay. An evaporation pond is the simplest disposal solution and does not require electricity. Evaporation ponds must be located a substantial distance from active land uses due to health and odor concerns. The existing septage disposal site features a single evaporation pond.

Advanced Integrated Wastewater Pond System (AIWPS) – The AIWPS is a multi-pond system that consists of at least four ponds in a series. AIWPS facilities require an advanced facultative pond with fermentation pits; an algal high rate pond where photosynthetic oxygenation, oxidation, and nutrient assimilation occurs; algal settling ponds; and a maturation pond where final effluent storage and further natural disinfection occurs. AIWPS facilities are designed to minimize the accumulation of sludge and to maximize the production of oxygen through algal photosynthesis. Algal biomass is produced and can be used as a nitrogen-rich fertilizer. The AIWPS requires electricity to operate surface aerators, which circulate the water in the ponds and accelerate the natural treatment process. While more advanced than the single evaporation pond approach, health and odor concerns associated with open ponds containing wastewater prevent the location of such a facility adjacent to Cedar Creek and the campground.

Sequencing Batch Reactor (SBR) – The SBR is a tank-based system where the tank is filled with wastewater, air is added to aid biological growth and facilitate subsequent waste reduction, solids are allowed to settle to the bottom of the tank, and the clarified effluent is discharged. Sludge is then emptied from the bottom of the tank, if necessary. The tank is then filled to start another batch. This solution requires access to electricity. Because it is entirely self-contained, the SBR can be located adjacent to active land uses such as the campground and near surface water features such as Cedar Creek.

The EPA Manual, "Wastewater Treatment/Disposal for Small Communities," Office of Research & Development, Office of Water (September 1992) states that "The SBR process has widespread application where mechanical treatment of small wastewater flows is desired. Because it provides for wide variations in flow rates, operation in the "fill and draw" mode prevents the "washout" of biological solids that often occurs with extended aeration systems. Another advantage of SBR systems is that they require less operator attention, yet produce a very high quality effluent."

Percolation and live stream discharge were dismissed by the Tribe as options for the disposal of wastewater due to the proximity of the project to the San Luis Rey River and concerns regarding contamination of groundwater and surface water.

1.3 Purpose and Need for the Proposed Action

The purpose of the proposed action is to protect public health and increase sanitary conditions on the Reservation by replacing an undersized and unlined evaporation pond used for the disposal of septage with a more efficient and sanitary septage treatment facility. The existing evaporation pond overflowed in 1993 during heavy rainfall and emergency pumping was required. The septage spill entered the San Luis Rey River watershed and caused environmental concerns. The Tribe has successfully limited septage disposal during wet weather to avoid a second overflow event. However, the Tribe anticipates some residential growth on the Reservation and has plans to implement more frequent pumping of residential septic systems. Therefore, the Tribe needs a larger and more efficient facility for the disposal of septage. In addition to the limited capacity of the existing septage pond, the pond lacks a screening system to prevent large debris from accumulating in the pond. The accumulation of floating debris, which often dries and blows out of the pond, is a sanitary condition that the Tribe would like to improve.

The increased volumes of septage have resulted from increased use of the campground, the construction of additional housing units on the Reservation, and increased pumping of the residential septic systems in an attempt to reduce septic system failures. Project engineers have analyzed the volume of septage pumped by the Tribe, rainfall, and evaporation rates over a three-year period to determine the proper sizing for the septage ponds. The volume of liquid added to the septage pond was compared with the rate of evaporation and the measured water level in the pond. As one would expect, the level of the septage pond was highest during the January through March periods and lowest during the September through November periods.

The Tribe currently has a plan to initiate a pumping program existing septic tanks. This would replace the current practice of responding to septic failures only and would increase the volume of septage to be disposed of. In addition, there currently is no way to screen the existing septage to separate inorganic matter (trash) from the septage. This has led to unsightly conditions at the existing septage disposal pond.

The Tribe has 144 existing homes on septic systems and hosts up to 3,000 campers within their public campground along the banks of the San Luis Rey River during peak summer weekends. The tribe has three restroom facilities and approximately 93 Port-a-Potties associated with the campground. With annual pumping of the septic systems and twice daily pumping of the Port-a-Potties on busy summer weekends, the Tribe must dispose of steadily increasing volumes of septage.

The current economic condition of La Jolla Tribal members is poor. Based upon the most recent *Report on Service Population and Labor Force* available, the La Jolla Tribe has an enrollment of 696 members living on or adjacent to the Reservation (Bureau of Indian Affairs 2001). According to the same report, the La Jolla Tribe has an unemployment rate of 56 percent, which is significantly higher than the overall unemployment rates of San Diego County and the State, at 5.3 percent and 3.2 percent, respectively, during the same time period. In addition, income levels for 8 percent of the population that are employed fall below the poverty guidelines threshold (e.g., $10,850 for a family unit of two and $13,650 for four). Currently, the main source of income for the La Jolla Tribe is from a small general store and gas station, a seasonal campground, and a recreational racetrack on the Reservation. A substantial portion of individual income is derived from Tribal Administration and Programs, and in general there is a high reliance upon the federal government for social services.

1.4 General Setting

The La Jolla Reservation is located along the southern slopes of Palomar Mountain. The San Luis Rey River bisects the Reservation. Elevations on the Reservation range from approximately 1,000 feet above mean sea level (MSL) along the San Luis Rey River and western boundary to over 5,000 feet above MSL at the northeast corner. The project site is on a flat knoll with an elevation of approximately 2,400 feet above MSL.

The San Luis Rey River flows in a westerly direction through the Reservation, north and several hundred feet below the project site. The Tribe operates a campground along both sides of an approximately 1.5 mile stretch of the river. The campground is open from approximately March through September, depending on weather conditions, and can handle up to approximately 3,000 campers on a busy weekend. Oak riparian forest lines the river, with chaparral and non-native grasslands covering upland areas.

The Reservation is located in the Peninsular Range Geomorphic Province of southern California (California Division of Mines and Geology 1965). During the Jurassic and late Cretaceous periods, more than 100 million years ago, a batholith was uplifted and forms the granitic rocks and outcrops of the Peninsular Range including Palomar Mountain. The project is near the southwestern margin of this batholith and is underlain by these granitic rocks, which are exposed as bedrock outcrops of granodiorite rock throughout the Reservation and project vicinity.

The Reservation is located in a seismically active region of southern California. The Elsinore Fault Zone, a major northwest-striking fault system, runs through the northeast portion of the Reservation. This fault zone is located approximately one mile from the existing septage disposal pond site. The numerous faults associated with the Elsinore fault zone show historic and Quaternary activity and are considered potentially active. The Elsinore Fault is classified as "active" pursuant to State of California Alquist-Priolo guidelines (Hart 1992). However, there is no Alquist-Priolo Earthquake Fault Zone map coverage for the project area. Displacements along faults within the Elsinore Fault Zone form a distinctive series of northwest/southeast striking, linear mountain blocks separated by valley troughs (Kennedy 1977). Within the vicinity of the project site, the Elsinore Fault Zone is a structurally complex area, which is probably comprised of several smaller, related fault splays and fault zones.

Soil at the existing unlined septage disposal pond site is classified as Boomer stony loam, 9 to 30 percent slopes (BrE). Soils in the Boomer series consist of well-drained, moderately deep to deep stony loams that have a stony clay loam subsoil. These soils formed in material derived from gabbro and occur in uplands with slopes ranging from 2 to 65 percent (Bowman 1973).

The Area of Potential Effect (APE), defined as the area that would be directly impacted by project construction, is approximately 2.0 acres. The APE includes a 20-foot buffer beyond all project features. The existing evaporation pond site is fenced and gated, although the proposed project would require an expansion of the fenced area to accommodate two large evaporation ponds, two much smaller fermentation pits, and a screening facility. The fence would be expanded to include the new facilities.

1.5 Organization Of Report

The remainder of this report is organized as follows. Section 2.0 describes the project alternatives, including the Preferred Alternative (Ponds) and the No Action Alternative. Section 3.0 presents the affected environment and Section 4.0 provides information regarding the potential environmental consequences of the proposed action. Section 5.0 provides a cumulative analysis of this action when considered with other past, present and reasonably foreseeable future actions. Section 6.0 presents the mitigation measures to be adopted by the Tribe to reduce or avoid significant environmental effects. Section 7.0 provides references cited and Section 8.0 lists project personnel and project consultation/coordination. The technical reports prepared in support of this EA are provided as appendices to this document.

2.0 PROJECT ALTERNATIVES

This section describes the Proposed Action, as well as three alternatives that have been considered by the Tribe. The purpose of the alternative analysis is to allow informed decisions concerning the environmental consequences of the proposed action and the alternatives by responsible and reviewing agencies, the public, and decision makers. All information regarding the Proposed Action has been obtained from the *La Jolla Septage Treatment System Improvements Technical Memorandum* (Nolte 2005).

Important factors influencing the selection of the project alternatives, including the project site, consisted of the overall cost of the project and availability of funding, locations of the septic systems and Port-a-Potties requiring pumping, the location of the existing septage disposal evaporation pond, the location of sensitive lands such as Cedar Creek and associated floodplain, and the environmental regulations and permit requirements covering wetland areas.

Four alternatives are investigated in this EA, including the Preferred Alternative (Expansion of Existing Evaporation Pond Site), the AIWPS Alternative, the SBR Alternative, and the No Action Alternative (continued use of existing evaporation pond). In addition, four potential project sites were evaluated. Three of the four sites were eliminated by the Tribe due to accessibility issues and environmental concerns. The Chimney Flats and Cienega Flats sites were rejected due to accessibility issues and a site north of the Tribe's campground and the San Luis Rey River, near Cedar Creek, was eliminated from consideration by the Tribe due to water quality and odor concerns. In addition, percolation and live stream discharge were dismissed by the Tribe as options for the disposal of wastewater due to the proximity of the project to the San Luis Rey River and concerns regarding contamination of groundwater and surface water.

As no long-term adverse environmental impacts have been identified for the Preferred Alternative, investigation of alternatives reducing or avoiding significant environmental impacts was not required.

2.1 **Preferred Alternative** (Expansion of Existing Evaporation Pond Site**)**

The Preferred Alternative consists of the construction of a larger and more advanced evaporation pond system. The existing small evaporation pond would be retained as an emergency overflow basin. Two new and much larger evaporation ponds would be constructed along with two fermentation pits. The lagoons would be 4' – 5' deep, and the fermentation pits would be 18' – 24' deep. There would also be a screening facility through which the septage would be pumped and a dumpster for the disposal of dried screened material. The existing fence would be replaced with a new fence, with lockable gate, that

would surround the new facilities. All grading would be balanced onsite, with the excavated material used to create berms around the ponds.

2.2 Advanced Integrated Wastewater Pond Systems Alternative (AIWPS)

The AIWPS Alternative features the construction of a multi-pond system that consists of at least four ponds in a series. This alternative requires the greatest amount of land. In addition, the AIWPS Alternative requires the extension of electricity from the campground area along the San Luis Rey River over a mile to the project site.

2.3 Sequencing Batch Reactor Alternative (SBR)

The SBR Alternative features the installation of a tank-based system that requires electricity to operate. Because it is entirely self-contained and requires the least amount of land, the SBR can be located adjacent to active land uses, such as the Tribe's campground. The EPA Manual, "Wastewater Treatment/Disposal for Small Communities," Office of Research & Development, Office of Water (September 1992) states that "The SBR process has widespread application where mechanical treatment of small wastewater flows is desired. Because it provides for wide variations in flow rates, operation in the "fill and draw" mode prevents the "washout" of biological solids that often occurs with extended aeration systems. Another advantage of SBR systems is that they require less operator attention, yet produce a very high quality effluent."

2.4 No Action Alternative

Selection of the No Action Alternative would prevent the Tribe from replacing the existing undersized unlined evaporation pond. The No Action Alternative is not in the best interest of the Tribe because it would allow the existing inadequate wastewater disposal system and associated public health and other environmental hazards to continue.

2.5 Comparison of Project Alternatives

Preferred Alternative

The Preferred Alternative would allow for the Tribe to increase their capacity for septage disposal and at the same time increase the sanitary conditions at the existing septage disposal site. The Preferred Alternative is preferred because it provides the greatest improvement to existing conditions at the least cost to construct and operate. Construction costs of approximately $290,000 are anticipated.

No culturally sensitive or special recreation areas are located near the project site. There are no unacceptable short- or long-term impacts to sensitive habitat, jurisdictional wetlands, or endangered or threatened species of plants, mammals, birds, reptiles, amphibians, and fishes expected as a result of this project. The majority of the project site is within a fenced area currently used for septage disposal. Areas inside and outside the fence that would be impacted by the proposed project are dominated by non-native grasslands.

No significant adverse impacts to natural resources, water, wastewater, and other community infrastructure such as schools, emergency medical care, public safety, recreation or transportation are expected to result from the direct, secondary, or cumulative effects of the construction and operation of the improved septage treatment system. Potential construction-related impacts to the Reservation can be addressed by standard precautionary construction techniques and would be of little consequence to Tribal members due to the remote location of the project site. This project would not involve the use of herbicides, defoliants, blasting, or burning. Construction activities would comply with Occupational Safety and Health Administration (OSHA) standards.

The Preferred Alternative represents the best means for the Tribe to achieve its goals of improving the environment, sanitary conditions, and public health within the available budget without resulting in significant adverse environmental impacts.

AIWPS Alternative

The AIWPS Alternative would require the greatest amount of level land, which is in limited supply on the reservation. Therefore, the AIWPS Alternative would require the greatest amount of grading to create level sufficient level ground at the project site. This would increase impacts to biological resources and extend impacts beyond disturbed/developed areas and non-native grassland into southern mixed chaparral. The additional grading would also result in increased visual impacts associated with the cut and fill slopes that would be created. In addition to the on-site impacts, the AIWPS Alternative would require the extension of electricity from the Tribe's campground along the San Luis Rey River to the project site, a distance of approximately 1.5 miles. Construction costs of approximately $490,000 are anticipated for this alternative.

SBR Alternative

The SBR Alternative would require the least area to construct and is the only alternative that could be constructed adjacent to the campground. This is because it is entirely self contained. As with the AIWPS Alternative, the SBR Alternative would require the extension of electricity from the Tribe's campground along the San Luis Rey River to the project site, a distance of approximately 1.5 miles, if it were to be constructed on the existing septage disposal site. Construction costs of approximately $800,000 to $1.5 million are anticipated.

No Action Alternative

The No Action Alternative would be the least preferable alternative. Approval of the No Action Alternative would represent a loss of potential improvement to the environment and the public health of Tribal members by maintaining the existing undersized evaporation pond. With at least one documented overflow in 1993 and projected increased septage volumes from increased use of the campground, increased pumping of residential septic systems, and some residential growth on the Reservation, the Tribe needs to improve the existing septage treatment system. The No Action Alternative is, therefore, not in the best interest of the Tribe.

3.0 AFFECTED ENVIRONMENT

3.1 Land Resources

Topography and Soils

The San Luis Rey River and Palomar Mountain are the two dominant topographical features of the Reservation. Palomar Mountain towers above the Reservation to the north and the San Luis Rey River flows through the heart of the Reservation. The Tribe relies on the La Jolla Campground along the Banks of the San Luis Rey River as an important source of income.

The existing evaporation pond is located at 2,400 feet above mean sea level (AMSL), high on a ridge overlooking the San Luis Rey River and the southern slopes of Palomar Mountain.

Regional Geology

The Reservation is located in the Peninsular Range Geomorphic Province of southern California (California Division of Mines and Geology 1965). During the Jurassic and late Cretaceous periods, more than 100 million years ago, a batholith was uplifted and forms the granitic rocks and outcrops of the Peninsular Range including Palomar Mountain. The project is near the southwestern margin of this batholith and is underlain by these granitic rocks, which are exposed as bedrock outcrops of granodiorite rock throughout the Reservation and project vicinity.

The Reservation is located in a seismically active region of southern California. The Elsinore Fault Zone, a major northwest-striking fault system, runs through the northeast portion of the Reservation. This fault zone is located approximately one-half mile from the project site. The numerous faults associated with the Elsinore fault zone show historic and Quaternary activity and are considered potentially active. The Elsinore Fault is classified as “active” pursuant to State of California Alquist-Priolo guidelines (Hart 1992). However, there is no Alquist-Priolo Earthquake Fault Zone map coverage for the project area. Displacements along faults within the Elsinore Fault Zone form a distinctive series of northwest/southeast striking, linear mountain blocks separated by valley troughs (Kennedy 1977). Within the vicinity of the project site, the Elsinore Fault Zone is a structurally complex area, which is probably comprised of several smaller, related fault splays and fault zones.

Land Use

The La Jolla Indian Reservation is located on approximately 9,000 acres in northern San Diego County. The Reservation is bisected in an east-west direction by SR-76. Most of the Reservation remains undeveloped. There are approximately 150 existing homes on the Reservation at this time. Existing community buildings include the Tribal Hall, Education Building, and Gymnasium. Existing commercial activities include the La Jolla Indian Campground, Big River Water Park (currently not operating), a Mini-Mart and Gas Station, and the Amago Raceway.

The Reservation is approximately 50 miles east of the Pacific Ocean and more than 40 miles beyond the Coastal Zone boundaries. No Tribal hunting or fishing grounds or gathering areas have been identified within the project area. The site is not used for timber harvesting, mining, or recreation. According to the San Diego County Important Farmland Maps, the proposed project site does not contain Prime Farmlands. There are no officially designated wilderness area or wildlife preserves within one mile of project area and the project sites are not located within a floodplain (EDR 2005).

The Tribe has not adopted a land use plan or zoning ordinance for the Reservation but, rather, relies upon the Tribal Council, the governing body of the Tribe, to guide and regulate land use. The project site has been used for the disposal of septage for many years and the Tribe has no other planned uses for the project site or adjacent areas.

3.2 Water Resources

Surface Water

The San Luis Rey River flows through the Reservation. The flow of water in the river is regulated at the Lake Henshaw Dam by the Vista Irrigation District. Cedar Creek flows down the side of Palomar Mountain and joins the San Luis Rey River within the La Jolla Campground. No flood maps defining the limits of a 100-year flood flow are known to exist. The Federal Emergency Management Agency (FEMA) does not map flood plains on Reservation land. It is, however, obvious that the project site is outside the 100-year flood zone as the site is located over 250 feet above the river level.

Groundwater

Groundwater aquifers on the Reservation are primarily found in fractured bedrock. The occurrence and movement of groundwater is significantly tied to the occurrence of the Elsinore Fault Zone and adjacent joint systems. Most of the Reservation homes, community buildings, and commercial uses are served by wells connected through three

community water systems. According to well drillers' logs, the groundwater aquifers are principally comprised of fractured granite. The depth below the ground surface (bgs) where water was first encountered during drilling ranged from 135 feet to 327 feet bgs. These depths are much deeper than the wells' static water levers, which range from 10 feet to 80 feet bgs. Therefore, the aquifer system can be characterized as a confined or artesian aquifer (Teel, et al. 2004).

The La Jolla Indian Reservation includes areas of terraces and mountain slope on the north and south sides of the San Luis Rey River. The project site and surrounding areas are within the watershed of the San Luis Rey River which occupies approximately 560 square miles in northern San Diego, stretching eastward 56 miles from the Pacific Ocean. The San Luis Rey River runs through the Reservation for approximately 7.8 miles, with the headwaters of the river located approximately 20 miles upstream. Other major streams include 2.1 miles of Cedar Creek and 2.6 miles of Yapicha Creek. The Escondido Canal runs through approximately 1.1 miles of the Reservation (Teel, et.al. 2004). The only major surface impoundment in the upper watershed is Vista Irrigation District's Lake Henshaw, with a storage capacity of 53,400 acre-feet. The San Luis Rey River provides a major water resource for the area. Perennial water is present in Cedar Creek, among other, more seasonal creeks that drain from the Palomar Mountain area and from the south. The project site is located on the north-facing slope on the south side of the San Luis Rey River, opposite the Tribal offices and nearly all other development on the Reservation.

Water Quality

Surface water quality in the project vicinity is generally good, however the San Luis Rey River is on the 2002 Clean Water Act Section 303(d) List of Water Quality Limited Segments for chloride (urban runoff, storm drains, unknown point and non-point sources) and total dissolved solids (agricultural runoff, industrial point sources, urban runoff, surface mining, flow regulation/modification, golf courses, unknown point and non-point sources, natural sources). The San Luis Rey River is also on the Proposed Watch List by the U.S. EPA Region 9 for calcium, eutrophication, magnesium, and phosphorus. These impairments threaten the beneficial uses of warm water habitat, wildlife habitat, preservation of rare, threatened, or endangered species, agriculture, and industrial uses (Teel, et. al. 2004). Because of the high resource value of the San Luis Rey watershed (i.e., surface water and groundwater resources, cultural resources, aquatic and wildlife habitat), high environmental risks associated with hydrologic and habitat modification, impairment of surface water and groundwater resources, and high restoration opportunities, the La Jolla Band has designated the watershed as a Priority Category I Watershed, warranting immediate restoration actions, in concurrence with the California Final Unified Watershed Assessment (Teel et al. 2004).
Storm water runoff and its potential effects on water quality is an environmental issue that has received increasing attention from regulatory agencies in recent years. The National

Pollution Discharge Elimination System (NPDES), established pursuant to the provisions of the Clean Water Act, is a national program for regulating and administering permits for all discharges to receiving waters. The EPA is ultimately charged with regulating discharges to surface waters. In California, the EPA has delegated permitting authority to the State Water Quality Control Board, but continues to regulate discharges originating on Indian lands into receiving waters, since the State Board has no jurisdiction on Indian lands.

All construction projects encompassing one acre or more on Indian lands in California must be covered by the EPA's NPDES General Storm Water Permit for Construction Activities. To achieve project authorization under the EPA's General Storm Water Discharge Permit, a Notice of Intent (NOI) must be submitted to the EPA at least two days prior to the commencement of construction. The Notice of Intent must include a Stormwater Pollution Protection Plan.

Adverse effects to water resources would be avoided through the implementation of Best Management Practices (BMPs). Therefore, BMPs shall be implemented during project construction, with an emphasis on the protection of the San Luis Rey River. The La Jolla Environmental and Water Resources Office would have approval authority over the storm water prevention BMPs. BMPs may consist of the use of swales, detention basins, hay bales, straw waddles, silt curtains, and gravel bags as well as hydroseeding and the preservation of vegetated buffers between areas of excavation and stream channels. Selection of the appropriate BMPs may be at the discretion of the project engineer and contractor. The distance between the project site and the San Luis Rey River, combined with the dense chaparral on the hillside below the proposed project site, the small size of the project site, and implementation of BMPs would prevent adverse impacts to surface water quality.

3.3 Air Quality

Climate

The climate of the region can generally be described as arid. For the La Jolla Reservation area, the annual average maximum temperature is 66 degrees Fahrenheit (F), ranging from 51 F in December and January to 84 F in July. The annual average minimum temperature is 45 F, ranging from 34 F in January to 62 F in July. Average annual precipitation is 28 inches at the Palomar Observatory, with most of the rain falling from November through April. Snowfall occurs between November and April, with an average snow depth of one to two feet during these months (Western Regional Climate Center, 2002).

The project is located in the San Diego Air Basin (SDAB). The boundaries of the air basin are coincident with those of the County. The climate of San Diego County is profoundly influenced by the Pacific Ocean and its semi-permanent high pressure systems that result

in dry, warm summers and mild, occasionally wet winters. The normal wind pattern is moderate to strong onshore winds during the day and weak offshore winds at night.

Two climatic phenomena contribute to air pollution problems in San Diego County. Subsidence inversions occur in the summer and the base of the inversion, at elevations between 1,000 and 3,000 feet, forms a "lid" to trap pollutants, which have been generated in the coastal plain and blown inland by the onshore winds. Thus, the highest pollution levels are often found in the western mountain slope communities, such as Alpine, Ramona and Descanso.

The Santa Ana wind condition is a reversal of the normal winds, and offshore winds blow pollutants out to the ocean. A strong Santa Ana will produce clear days. However, a weak Santa Ana, and conditions at the start and end of a Santa Ana wind period, will transport air pollutants from Los Angeles and Orange Counties out to sea and southward, then back to shore in San Diego County. These phenomena will produce higher pollutant concentrations in the coastal communities.

Applicable Regulations, Plans, and Policies

The Federal Clear Air Act (42 U.S.C. " 7401-7671q) requires the adoption of national ambient air quality standards (NAAQS) to protect the public health and welfare from the effects of air pollution. Current standards are set for sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter equal to or less than 10 microns in size (PM_{10}), fine particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$), and lead (Pb). These pollutants are called the criteria pollutants. The State of California Air Resources Board (ARB) has established additional standards for the criteria pollutants that are generally more restrictive than the NAAQS. Federal and state standards are shown in Table 2.

Federal standards for 8-hour O_3 and $PM_{2.5}$ became effective on 15 September 1997 and were subsequently challenged and litigated. The U.S. Supreme Court affirmed the standards, and policies and systems to implement these new standards are being developed. On April 15, 2004 the U.S. Environmental Protection Agency (EPA) issued a final ruling for the 8-hour O_3 designations and controls (USEPA 2004c).

On April 15, 2004, EPA designated the San Diego air basin as non-attainment for the new 8-Hour ozone standard. This designation took effect on June 15, 2004. The Final Transportation Conformity Rule Amendments for the New 8-hour Ozone and PM2.5

National Ambient Air Quality Standards required that conformity of the RTP and the RTIP for nonattainment areas be determined to the 8-Hour ozone standard by June 15, 2005.

Table 2. State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	National Standards[2]	
		Concentration[3]	Primary[3,4]	Secondary[3,5]
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	0.12 ppm (235 μg/m^3)[6]	Same as Primary Standard
	8 Hour	–	0.08 ppm (157 μg/m^3)[6]	
Respirable Particulate Matter (PM_{10})	24 Hour	50 μg/m^3	150 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m^3	50 μg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard	65 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m^3	15 μg/m^3	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)	None
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	–	0.053 ppm (100 μg/m^3)	Same as Primary Standard
	1 Hour	0.25 ppm (470 μg/m3)	–	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	0.030 ppm (80 μg/m^3)	–
	24 Hour	0.04 ppm (105 μg/m^3)	0.14 ppm (365 μg/m^3)	–
	3 Hour	–	–	0.5 ppm (1300 μg/m^3)
	1 Hour	0.25 ppm (655 μg/m^3)	–	–
Lead (Pb)[7]	30 Day Average	1.5 μg/m^3	–	–
	Calendar Quarter	–	1.5 μg/m^3	Same as Primary Standard
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer– visibility of ten miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent.	No Federal Standards	
Sulfates (SO_4)	24 Hour	25 μg/m^3		
Hydrogen Sulfide (HS)	1 Hour	0.03 ppm (42 μg/m^3)		
Vinyl Chloride (chloroethene)[7]	24 Hour	0.01 ppm (26 μg/m^3)		

μg/m^3 - micrograms per cubic meter; ppm - parts per million
Source: California Air Resources Board (CARB) 2003

1. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matterB PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calender year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.
7. The ARB has identified lead and vinyl chloride as >toxic air contaminants= with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

The SANDAG Board made a finding of conformity of the 2030 RTP and 2004 RTIP, as amended, on April 22, 2005. The U.S. DOT issued its conformity finding on May 20, 2005.

A state or region is given the status of "attainment" or “maintenance” if ambient air quality standards have not been exceeded. A status of "non-attainment" for particular criteria pollutants is assigned if the ambient air quality standard for that pollutant has been exceeded. Once designated non-attainment, the status of attainment may be achieved after three years of data showing non-exceedance of the standard.

In San Diego County, the San Diego Air Pollution Control District (APCD) is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies. Included in the APCD's tasks are the monitoring of air pollution; the preparation of the San Diego air basin portion of the State Implementation Plan (SIP); and the promulgation of Rules and Regulations. The SIP includes strategies and tactics to be used to attain acceptable air quality in the County. The APCD does not have jurisdiction over actions that take place on the Reservation. The EPA does, however, enforce federal clean air regulations on the Reservation.

Clean Air Act Conformity

The 1990 amendments to federal Clean Air Act Section 176 require the USEPA to promulgate rules to ensure that federal actions conform to the appropriate State Implementation Plan (SIP). These rules, known together as the *General Conformity Rule* (40 CFR §§ 51.850-.860 and 40 CFR §§ 93.150-.160), require any federal agency responsible for an action in a nonattainment area to determine that the action conforms to the applicable SIP or that the action is exempt from the General Conformity Rule requirements. This means that federally supported or funded activities will not (1) cause or contribute to any new air quality standard violation, (2) increase the frequency or severity or any existing standard violation, or (3) delay the timely attainment of any standard, interim emission reduction, or other milestone.

Actions would conform to a SIP and be exempt from a conformity determination if an applicability analysis shows that the total direct and indirect emissions from the project construction and operation activities would be less than specified emission rate thresholds, known as *de minimis* limits, and that the emissions would be less than 10 percent of the area emission budget.

Existing Air Quality

San Diego County is an attainment area for all federal criteria pollutants except ozone (O_3). The county is classified as attainment/maintenance for carbon monoxide (CO). The maintenance classification indicates that attainment has been achieved after being in violation of the federal standards. The nonattainment and maintenance designations require that any federal project demonstrate conformity, called General Conformity, with the

applicable state implementation plan (SIP) for attainment and maintenance of the pollutant standards. On 15 April 2004, the USEPA issued the initial designations for the 8-hour O_3 standard, and the San Diego Air Basin is classified as "basic" nonattainment. Basic is the least severe of the six degrees of O_3 nonattainment. The San Diego County APCD must submit an air quality plan to the USEPA in 2007; the plan must demonstrate how the 8-hour O_3 standard will be attained by 2009 (APCD 2004).

Air quality is monitored at nine locations in the SDAB. Regionally, ozone levels monitored from 1997 to 2001 exceeded federal and state standards the most in 1998. During this year, smog levels exceeded the federal standard on 9 days and the state standard on 54 days. This represented a dramatic increase from 1997, but APCD officials feel this is not a reversal of the continuing long-term improvement, rather that meteorological conditions in 1997 caused unusually low ozone levels for that year. Federal and state standards for carbon monoxide and nitrogen dioxide have not been exceeded in the past five years. The annual federal standard for PM_{10} was not exceeded in the region in 1998; the state annual standard was exceeded only at Otay Mesa.

The La Jolla Indian Reservation is located in San Diego County and the San Diego Air Basin (SDAB). The boundaries of the SDAB and the County are the same. The San Diego County, the San Diego APCD is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies. Included in the SDAPCD's tasks are the monitoring of air pollution, the preparation of the San Diego County portion of the State Implementation Plan (SIP), and the promulgation of Rules and Regulations. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in the county; this list of strategies is called the Regional Air Quality Strategies. The Rules and Regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts.

3.4 Living Resources

A biological resources report was prepared for the proposed project by TIERRA Environmental Services (2005) and is attached as Appendix A to this EA. The biological resources survey was conducted on November 30, 2005 to identify and map vegetation communities and associated biological resources existing on-site, to determine the presence or absence of sensitive species, and to assess the potential impacts of the proposed project on these resources. The survey was conducted during a time of year when annual plant species are not present. In addition, secretive wildlife species that require long observation periods may not have been observed due to the need for the surveyor to be moving continuously throughout the project area. Finally, nocturnal species were not observed as the survey was conducted during daylight hours. Despite these caveats, the biological survey was suitable for the mapping of vegetation communities and the assessment of potential habitat for threatened and endangered species.

Prior to the survey, a search was conducted of the California Natural Diversity Data Base

(CNDDB), a computerized inventory of endangered, threatened, or rare species occurrences maintained by the California Department of Fish and Game (CDFG). It is noted that the CDFG does not have jurisdiction over biological resources on the Reservation and that the database only covers the adjacent non-Reservation lands. Input on the potential occurrence of sensitive species was also solicited from the U.S. Fish and Wildlife Service (USFWS). The USFWS response is documented as an attachment to the Biological Resources Technical Report.

Vegetation Communities

One vegetation community was mapped within the survey area, non-native grassland. The remainder of the project site is currently developed or features ruderal areas within the fenced and developed sepage pond area. Vegetation just beyond the non-native grasslands support southern mixed chaparral. A complete list of all plant species is included as Appendix C to the Biological Resources Technical Report (Appendix A).

Non-native grassland features a dense to sparse cover of annual grasses. Germination occurs with the onset of the late fall rains. Growth, flowering, and seed-set occur from winter through spring. Non-native grassland on-site consisted of areas dominated by non-native annual grasses including wild oat (*Avena fatua*), rip-gut grass, and deer grass (*Muhlenbergia rigens*). Native and non-native herbacious species co-occur with grass species in non-native grassland. Herbacious species observed onsite included large-beak filaree (*Erodium botrys*), California aster (*Lesingia filanginifolia*), fascicled tarweed (*Deinandara fascibulata*), slender sunflower (*Helianathus gracilentus*), and western ragweed (*Ambrosia psilostachys*).

The ruderal areas have been heavily disturbed in the past and are dominated by weedy, non-native species including short pod mustard (*Hirschfeldiana incana*), Bermuda grass (*Cynodon dactylon*), large-beak filaree, and California matchweed (*Gutierreza californica*).

A small drainage that connects to a blue-line tributary of the San Luis Rey River occurs adjacent to the project site.

Wildlife

Wildlife species were detected with binoculars or by unaided visual observation during the biological resources survey. A complete list of all wildlife species observed is presented in Appendix C of the Biological Resources Technical Report (Appendix A). Birds observed included western scrub jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), lesser goldfinch (*Carduelis psaltria*), wrentit (*Chamaea faciata*), spotted towhee (*Pipilo maculatus*), black phoebe (*Sayornis nigricans*), Bewick's wren (*Thryomanes bewickii*), and acorn woodpecker (*Melanerpes formicivorus*). Indicators such burrows were used to determine the presence of unidentified rodents.

Rare and/or Endangered and Sensitive Species

Plant and animal species are considered sensitive if they have been listed as such by federal or state resource agencies, or by special interest groups such as the California Native Plant Society (CNPS). The CDFG publishes the CNDDB RareFind, a computerized inventory of information on the location and condition of California's rare, threatened, endangered, and sensitive plants, animals, and natural communities (CDFG 2004). No species were reported by the CNDDB as occurring within or immediately adjacent to the project area.

The list of potentially occurring threatened or endangered species was obtained from the USFWS. The letter from the USFWS is found in Appendix A to the Biological Resources Technical Report (Appendix A). Threatened and endangered plant species reported as potentially occurring on the Reservation include Nevin's barberry (*Berberis nevinii*) and San Bernardino bluegrass (*Poa atropurpurea*). Threatened and endangered wildlife species reported as potentially occurring on the Reservation include Stephen's kangaroo rat (*Dipodomys stephensi*), arroyo toad (*Bufo californicus*), California red-legged frog (*Rana aurora draytonii*), mountain yellow-legged frog (*Rana muscosa*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), quino checkerspot butterfly (*Euphydryas editha quino*), and Laguna Mountains skipper (*Pyrgus ruralis lagunae*).

All but three of the species listed above could not be found in the project area due to lack of appropriate habitat. Appropriate habitat for three of the species does occur on or near the project site: Nevin's barberry, Stephen's kangaroo rat, and Quino checkerspot butterfly. Nevin's barberry is a shrub species associated with chaparral that was not observed on or adjacent to the project site. Stephen's kangaroo rat prefers areas of non-native grasslands and disturbed areas similar to the proposed project site. The project site, however, was mechanically cleared to construct the existing unlined evaporation pond and is surrounded by chaparral. The project site is too isolated from any known populations of Stephen's kangaroo rat and too isolated from other areas of non-native grasslands to provide suitable habitat. The Quino checkerspot butterfly prefers sunny openings in chaparral and coastal sage scrub and requires one of several host plants. The species is also known to prefer open or bare soils with moderate to heavy clay content. The project site provides isolated and marginal potential habitat and is located outside the USFWS-recommended survey area for the Quino checkerspot butterfly.

3.5 Cultural Resources

A survey for cultural resources was conducted by Tierra Environmental Services on November 30, 2005. The following information summarizes the cultural resources survey report (Appendix B - Confidential).

Ethnography

The Shoshonean inhabitants of northern San Diego County were called Luiseños by Franciscan friars who named the San Luis Rey River and established the San Luis Rey Mission in the heart of Luiseño territory. Their territory encompassed an area from roughly Agua Hedionda on the coast, east to Lake Henshaw, north into Riverside County, and west through San Juan Capistrano to the coast (Bean and Shipek 1978). The Luiseño shared boundaries with the Gabrieliño and Serrano to the west and northwest, the Cahuilla from the deserts to the east, the Cupeño to the southeast and the Ipai, to the south.

The Luiseño were divided into several autonomous lineages or kin groups. The lineage represented the basic political unit among most southern California Indians. According to Bean and Shipek (1978) each Luiseño lineage possessed a permanent base camp, or village, in the San Luis Rey Valley and another in the mountain region for the exploitation of acorns, although this mobility pattern may only apply to the ethnohistoric present. Nearly all resources of the environment were exploited by the Luiseño in a highly developed seasonal mobility system. Each lineage had exclusive hunting and gathering rights in their procurement ranges and violation of trespass was seriously punished (Bean and Shipek 1978).

Acorns were the most important single food source used by the Luiseño. Their villages were usually located near water necessary for leaching acorn meal. Seeds from grasses, manzanita, sage, sunflowers, lemonade berry, chia and other plants were also used along with various wild greens and fruits. Deer, small game and birds were hunted and fish and marine foods were eaten. Generally women collected the plant resources and the men hunted but there was no rigid sexual division of labor (Bean and Shipek 1978).

Houses were arranged in the village without apparent pattern. The houses in primary villages were conical structures covered with tule bundles, having excavated floors and central hearths. Houses constructed at the mountain camps generally lacked any excavation, probably due to the summer occupation. Other structures included sweathouses, ceremonial enclosures, ramadas and acorn granaries. Domestic implements included wooden utensils, baskets and ceramic cooking and storage vessels. Hunting implements consisted of the bow and arrow, curved throwing sticks, nets and snares. Shell and bone hooks as well as nets were used for fishing. Lithic resources of quartz and metavolcanics, and some cherts were available locally in some areas. Exotic materials, such as obsidian and steatite, were acquired through trade.

The traditional Luiseño religion is a complex and deeply philosophical belief system with powerful religious leaders, elaborate ceremonies and a veil of secrecy (White 1963). Each ritual and ceremonial specialist maintained the knowledge of the full meaning of a ceremony in secrecy and passed on the knowledge to only one heir. The decimation of the population after European contact undoubtedly caused the loss of some religious specialists and brought about abbreviated versions of ceremonies (Winterrowd and Shipek 1986), many of which are still practiced today. Surviving ceremonies include initiation for

cult candidates, installation of religious chiefs, funerals and clothes burning (Bean and Shipek 1978).

Spanish explorers first encountered coastal Luiseño villages in 1769 and later established the Mission San Luis Rey de Francia in 1798, four miles inland from the mouth of the river. The missions "recruited" the Luiseño to use as laborers and convert them to Catholicism. The inland Luiseño were not heavily affected by Spanish influence until 1816, when an outpost of the mission was established 20 miles further inland, at Pala (Sparkman 1908). At the time of contact, Luiseño population estimates range from 5,000 to as many as 10,000 individuals. Missionization, along with the introduction of European diseases, greatly reduced the Luiseño population. Most villagers, however, continued to maintain many of their aboriginal customs and simply adopted the agricultural and animal husbandry practices learned from Spaniards.

By the early 1820s California came under Mexico's rule, and in 1834 the missions were secularized resulting in political imbalance, which caused Indian uprisings against the Mexican rancheros. Many of the Luiseños left the missions and ranchos and returned to their original village settlements. When California became a sovereign state in 1849, the Luiseño were recruited more heavily as laborers and experienced even harsher treatment. Conflicts between Indians and encroaching Anglos finally led to the establishment of reservations for some Luiseño populations, including the La Jolla Reservation in 1875. Other Luiseños were displaced from their homes, moving to nearby towns or ranches. The reservation system interrupted Luiseño social organization and settlement patterns, yet many aspects of the original Luiseño culture still persist today. Certain rituals and religious practices are maintained and traditional games, songs and dances continue as well as the use of foods such as acorns, yucca and wild game.

Prehistory

As currently understood, San Diego prehistory begins with the paleoindian or San Dieguito culture dating to approximately 11,000 before present (B.P.). The typical San Dieguito artifact assemblage includes a variety of scrapers, choppers, and bifacial knives or points suggesting that these peoples were a generalized hunting and gathering society. At roughly 8,500 to 7,500 B. P. a major shift in the artifact assemblage, and by extension the subsistence system, occurred. This shift is characterized by the introduction of milling equipment (manos and metates) together with an emphasis on plant and particularly marine (shellfish and fish) resources. Variously referred to as La Jolla culture, Milling Stone Horizon or the Archaic Period, these hunters and gatherers are best known from a series of coastal sites although inland resource were also exploited. Also distinctive of the La Jollan culture was the practice of burying the dead.

The La Jollan culture pattern persisted until the Late Prehistoric period, which began about 2,000 B.P. when the ancestors of the contemporary Luiseño appear to have migrated into

San Diego County from the deserts to the east. These Takic-speaking peoples brought with them a bow-and-arrow technology characterized by small pressure flaked projectile points and an expanded milling technology which included both permanent (bedrock) and portable metate/basins and mortars with their accompanying manos and pestles. At a somewhat later date ceramic technology was introduced which significantly changed and improved both the ability to prepare food and to store it for long periods of time. Burial patterns also varied from the earlier La Jollan culture in that inhumation was replaced by cremation. In the northern part of the county, where the project is located, the period is known archaeologically as the San Luis Rey Complex.

History

The Spanish Period (1769-1821) represents a period of Euroamerican exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the San Diego and San Luis Rey Missions. The Mission system used Native Americans to build a footing for greater European settlement. The Mission system also introduced horses, cattle, other agricultural goods and implements; and provided construction methods and new architectural styles. The cultural and institutional systems established by the Spanish continued beyond the year 1821, when California came under Mexican rule.

The Mexican Period (1821-1848) includes the retention of many Spanish institutions and laws. The mission system was secularized in 1834, which dispossessed many Native Americans and increased Mexican settlement. After secularization, large tracts of land were granted to individuals and families and the rancho system was established. Cattle ranching dominated other agricultural activities and the development of the hide and tallow trade with the United States increased during the early part of this period. The Pueblo of San Diego was established during this period and Native American influence and control greatly declined. The Mexican Period ended when Mexico ceded California to the United States after the Mexican-American War of 1846-48.

Soon after American control was established (1848-present) gold was discovered in California. The tremendous influx of Americans and Europeans that resulted, quickly drowned out much of the Spanish and Mexican cultural influences and eliminated the last vestiges of de facto Native American control. Few Mexican ranchos remained intact because of land claim disputes and the homestead system increased American settlement beyond the coastal plain.

Survey Results

The cultural resource survey identified no cultural resources. The location of the APE is on a remote knoll well away from likely food or material culture resources. This in conjunction with the highly disturbed nature of the project area make it highly unlikely that any intact cultural resources are located within the APE and no further work is recommended.

3.6 Socioeconomic Conditions and Environmental Justice

Socioeconomic Conditions. According to the most current *Report on Service Population and Labor Force* available for the La Jolla Reservation, the Tribe has an enrollment of 696 members living on or adjacent to the Reservation (Bureau of Indian Affairs, 2001). According to the same report, the La Jolla Tribe has an unemployment rate of 56 percent, which is significantly higher than the overall unemployment rates of San Diego County and the State, at 3.2 percent and 5.3 percent, respectively, during the same time period. These differences are probably due in part to educational and cultural differences. The Tribe maintains a high reliance upon government funded programs and supplemental income. In addition to this high unemployment rate, 9% of the employed population fall below the poverty guidelines.

Environmental Justice. Executive Order 12898 and accompanying Presidential Memorandum require that all federal agencies address environmental justice concerns to ensure fair treatment of all members of a community. Environmental justice concerns may arise from impacts on the natural or physical environment, such as human health or ecological impacts on low-income populations, minority populations, and Indian tribes, and from interrelated social, cultural and economic impacts. These concerns must be addressed through the NEPA process by identifying and addressing disproportionately high and adverse human health or environmental effects of the responsible agency's programs, policies, and activities on low-income populations, minority populations, and Indian tribes, particularly with respect to multiple and cumulative exposure to environmental hazards.

The goal of fair treatment is not to shift risks among populations, but to identify potential disproportionately high and adverse human health and environmental effects on minority populations and low-income populations and identify alternatives to mitigate those impacts.

3.7 Resource Use Patterns

3.7.1 Transportation Networks

Regional access to the Reservation is provided by SR-76, which traverses the Reservation in an east/west direction connecting I-15 to the west to SR-79 to the east. Valley Center Road (County S6) connects to SR-76 from the south just west of the Reservation. The proposed project site is accessed by use of a paved road that leads to the Tribe's campground along the banks of the San Luis Rey River. From there one crosses a bridge over the river and climbs a graded dirt fire road for approximately 1.5 miles to the proposed project site, which is several hundred feet higher than the elevation of the river. There is a locked gate on the access road, just beyond the river. There is a second locked gate at the existing fenced septage disposal pond. Access through both locked gates is controlled by the Tribe, though fire and emergency vehicles also have access to the road.

3.7.2 Land Use

The project site is currently used for the disposal of septage and is located more than a mile up a dirt fire road on the south side of the San Luis Rey River, at an elevation several hundred feet above the river. A borrow site for decomposed granite is the only active land use along the access road once you pass the San Luis Rey River and the La Jolla Campground. Otherwise the land is open rangeland. The existing unlined evaporation pond was constructed with an earthen berm and is fenced. The access road was damaged by heavy rains during the winter of 2004/2005 and was repaired during the summer of 2005 using a Federal Emergency Management Agency (FEMA) grant. The road repair involved erosion control measures such as the installation of brow ditches and drainage culverts in key locations. The road surface is now in excellent condition and no improvements would be necessary for construction access.

3.7.3 Public Services

Solid Waste Disposal

Solid waste disposal for the La Jolla Indian Reservation and vicinity is provided by Ramona Disposal Service located in Ramona. Trash pick-up on the Reservation occurs weekly. A transfer station currently exists on the Reservation near the Tribal Offices. Tribal residents transport their trash to the transfer station and the disposal company collects the trash from the transfer station. Waste is then transported to the Ramona Transfer Station and ultimately to the Ramona landfill.

Electricity and Natural Gas Availability

Electric power for the Reservation is provided by the San Diego Gas and Electric Company (SDG&E). Propane is used for heating and cooking with only a few homes on all electric power. There is no natural gas provided to the Reservation.

Wastewater Service

All wastewater produced by the La Jolla Reservation is treated by individual septic systems or is contained within Port-a-Potties. The majority of these systems are comprised of a settling tank and a system of pipes extending into a leach field. The sewage flows into the settling tank where most of the suspended solids settle to the bottom. The remaining effluent flows out of the tank through a series of perforated pipes and percolates into the soil where organic material and pathogens are removed before it reaches the water table.

Water Availability

All drinking water on the Reservation comes from groundwater sources via wells (John Beresford, personal communication). Water is pumped from wells to storage tanks then is provided to the Tribal Offices, individual homes, the campground, and other commercial uses by the Reservation water system. The system includes a water main, pipelines and water tanks. Water is dispersed through the main water line through gravitational forces.

3.7.4 Other Resource Use Patterns

The project sites are not currently used for hunting, fishing, or gathering activities, timber harvesting, agriculture, mining, or recreation, although the campground site is adjacent to a public campground. The project site also does not contain any prime farmland, unique farmland or farmland of statewide importance. Land on the La Jolla Reservation has been mapped as Other Land by the State of California Department of Conservation Division of Land Resource Protection Farmland Mapping and Monitoring Program (San Diego County Important Farmland 2000). Other Land is land that does not meet the criteria of any other category. Common examples include low-density rural developments, wetlands, dense brush and timberlands, gravel pits, and small water bodies.

3.8 Other Values

This section discusses sound and noise, public health and safety, and visual resources/aesthetics.

3.8.1 Sound and Noise

Noise is defined as unwanted or annoying sound that is typically associated with human activity and which interferes with or disrupts normal activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance.

The Reservation is located within a rural valley setting. The predominant source of noise is from traffic on SR-76. The closest sensitive receptor to the project site is the seasonal public campground along the banks of the San Luis Rey River.

3.8.2 Public Health and Safety

This section describes the availability of fire and law enforcement services for the La Jolla Reservation and the potential for the occurrence of hazardous materials on the project site or vicinity.

Law Enforcement

Law enforcement for the project site is within the jurisdiction of the San Diego County Sheriff. The La Jolla Reservation has a security officer who patrols in the evenings and on weekends. The closest Sheriff's substation is the Pauma-Valley Center Substation located in Valley Center at 28205 North Lake Wolford Road, approximately 9 miles southwest of the project site. The Sheriff's Substation has a total sworn staff of 18 including one Sergeant, one Lieutenant, two Detectives, two Community-Oriented Policing Deputies, and twelve Patrol Deputies. The Station provides 24-hour service with a minimum of two officers on duty during the day, three during the evening, and two during the night hours.

Fire

The La Jolla Band maintains an all-volunteer fire department that responds to small fires on the Reservation. If the volunteers are unavailable or a larger force is needed, the Lake Henshaw Department responds or the Rincon Reservation Fire Department responds. The California Department of Forestry and Fire Protection (CDF) is available to provide emergency fire protection backup, as well. The station's fire fighting equipment includes one brush engine and one structure engine.

Emergency Services

The project site is within the Palomar-Pomerado Hospital District. The Palomar-Pomerado Hospital District extends from the City of San Marcos in the west to the community of Julian in the east, and from the Riverside County line in the north to the San Vicente and El Capitan Reservoirs to the south. The District maintains two hospitals: Palomar Medical Center in Escondido, with 299 beds; and Pomerado Hospital in Poway, with 109 beds. The Palomar Medical Center is closest to the project site at a distance of approximately 15 miles. Palomar Medical Center is also the base station for all paramedic units operating in the District. The Palomar-Pomerado Hospital District has recently opened the Mountain Valley Health Clinic, located in Pauma Valley, approximately 9 miles west of the Reservation, on Highway 76. The Mountain Valley Health Clinic provides services similar to an urgent care facility (Tamara Shackelton, Personal Communication).

Hazardous Materials

The proposed project site includes an existing unlined evaporation pond used for septage disposal and undeveloped open space. With the exception of the ongoing disposal of pumped sewage in the evaporation pond, no evidence of past development or the use, storage, or disposal of hazardous materials was observed on the project sites.

Samples of the La Jolla septage were taken on November 19, 1998. Table 3 provides the results of the chemical analysis of the septage.

Table 3 - Chemical Analysis Results of La Jolla Septage Sample

Parameter	Units	Value

TS	mg/l	98,264
TVS	mg/l	53,548
TSS	mg/l	33,284
VSS	mg/l	19,804
BOD_5	mg/l	4,950
COD	mg/l	4,180
TKN	mg/l	1,548
Ammonia-N	mg/l	71
P_{total}	mg/l	22.1
Alkalinity	mg/l	4,712
Grease & Oil	mg/l	354
pH	-	7.84

Source: (1999, D-TEK Analytical Laboratories, Inc.)

The chemical analysis determined that the La Jolla septage is within the parameters of EPA concentrations for domestic septage (EPA Handbook, Septage Treatment and Disposal, 1984).

The sludge from the existing evaporation pond would be sampled prior to construction and appropriate action would be taken regarding handling and disposal if any hazardous materials were encountered. All material collected at the septage disposal site shall be disposed of in a local landfill in accordance with all applicable regulations. This material will be dewatered and is not anticipated to require any special handing.

Tribal representatives are not aware of any hazardous material sites within the project area. No hazardous materials are anticipated in the project area. No hazardous materials, other than standard fuels, lubricants, and coolants used in construction equipment, would be associated with project construction. The project contractor would be required to follow all applicable guidelines regarding equipment fueling
and maintenance, including the prohibition of fueling and maintenance within 100 feet of Cedar Creek or the San Luis Rey River.

3.8.3 Visual Resources/Aesthetics

The existing evaporation pond, which is at a similar elevation as the Tribal Offices, is not visible from the developed portions of the Reservation due to the distance across the San Luis Rey River, the chain link fence, and the low profile of the berms. Upon arrival at the existing evaporation pond from the dirt access road, the chain link fence is the most visible feature. Figure 5 provides a view of the existing evaporation pond as taken from the hillside above the access road looking north towards the center of the Reservation.

Figure 5
View of Existing Evaporation Pond and Proposed Project Site

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Land Resources

There would not be a change in land use as the existing evaporation pond would be incorporated into the project design. Permanent surface impacts would be limited to less than 2.0 acres.

4.2 Water Resources

The proposed project would disturb approximately 2.0 acres for the installation of two evaporation ponds and two fermentation pits. The existing unlined pond relies on evaporation for disposal of the pumped septage, not percolation and groundwater recharge. Earthen berms contain the pumped septage within the approximately 50-foot by 60-foot evaporation pond. Only the single documented overflow in 1993 threatened water quality and the Tribe has been taking steps to avoid a repeat of that event, including limiting septage disposal during wet weather and planning work for the proposed project. The proposed septage pond improvements would provide increased pond capacity as well as increased efficiency and sanitation. All new ponds would be lined to avoid percolation of septage into the groundwater. Earthen berms, an emergency overflow pond (the existing evaporation pond), and monitoring by the Tribe would prevent any overflow or surface flow of septage.

BMPs would be implemented during project construction, with an emphasis on the protection of surface water and the San Luis Rey River. BMPs may consist of the use of swales, detention basins, hay bales, straw waddles, silt curtains, and gravel bags as well as hydroseeding and the preservation of vegetated buffers between areas of excavation and stream channels. Selection of the appropriate BMPs may be at the discretion of the project engineer and contractor. With the implementation of BMPs during construction, adverse impacts to water resources would be avoided.

4.3 Air Quality

Project impacts would be most pronounced during construction activities and would consist of emissions from gas and diesel engines in construction trucks and equipment as well as dust (PM_{10}) associated with earth moving activities. Due to the small size of the project area, short duration of construction, limited amount of equipment needed, and lack of sensitive receptors, air quality impacts are considered to be less than significant. The project is exempt from the SIP as the emissions would clearly be below de minimis limits.

The Tribe would implement standard dust control measures, such as the minimization of exposed areas, watering of exposed dirt areas, 15 mph speed limits for construction vehicles on dirt roads, cessation of construction activities if wind speeds exceed 25 mph, and hydroseeding of disturbed areas following construction. These measures will comply with the SDAPCD Rules and Regulations

4.4 Living Resources

Vegetation

The Preferred Alternative would cause impacts to approximately 1.05 acres of non-native grassland, 0.51 acre of ruderal area, 0.39 acre of developed area, and 0.05 acre of southern mixed chaparral. Total project impacts would be approximately 2.0 acres. No sensitive vegetation types would be adversely affected.

Sensitive Species

Construction of the Preferred Alternative would not have any adverse effects on sensitive species as none were identified at or adjacent to the project site.

Sensitive Habitats

No sensitive habitats were identified within the APE. The headwaters of an unnamed tributary to the San Luis Rey River was identified adjacent to the project site. This drainage featured mostly upland plant species, with some wetland species.

Wetlands and creek beds are under the jurisdiction of the ACOE pursuant to Section 404 of the Clean Water Act. Furthermore, on Indian lands, the EPA exerts jurisdiction over similar habitats pursuant to Section 401 of the Clean Water Act. The drainage that connects to the blue-line tributary to the San Luis Rey River would be considered Waters of the U.S. and would be considered to be jurisdictional by both agencies. This drainage is beyond the project limits and all adverse effects would be avoided.

4.5 Cultural Resources

A determination of no historic properties affected is recommended for the Proposed Action as an intensive field survey did not identify any cultural resources within or adjacent to the APE.

4.6 Socioeconomic Conditions and Environmental Justice

Implementation of the Preferred Alternative does not pose a disproportionate risk to any individuals or groups of persons, regardless of income or ethnicity. In fact, project impacts would be limited to approximately 2.0 acres in a remote location of the Reservation, including an existing fenced evaporation pond. The proposed project would result in increased capacity for septage disposal and improved sanitary conditions, ultimately improving the quality of life for Tribal members and guests on the Reservation.

4.7 Resource Use Patterns

4.7.1 Transportation Networks

The Proposed Action would not have any effect on transportation networks as the expanded septage facility would be constructed at the location of an existing evaporation pond. Traffic on the existing dirt road that provides access to the septage facility would be increased by construction activities for several months at most. This road was regraded in 2005 and is in excellent condition. No road improvements are necessary to complete the proposed action. There is a gate across the road that is often locked and can only be opened by authorized Tribal members and emergency crews. This road sees little use by vehicles other than the septage haulers and tribal security and maintenance vehicles. Construction traffic would be minimal and short-term.

4.7.2 Land Use

No adverse effects to land use would result from the Proposed Action. The proposed project site is located in a remote location on the Reservation that is currently used for septage disposal. There would be no change in land use.

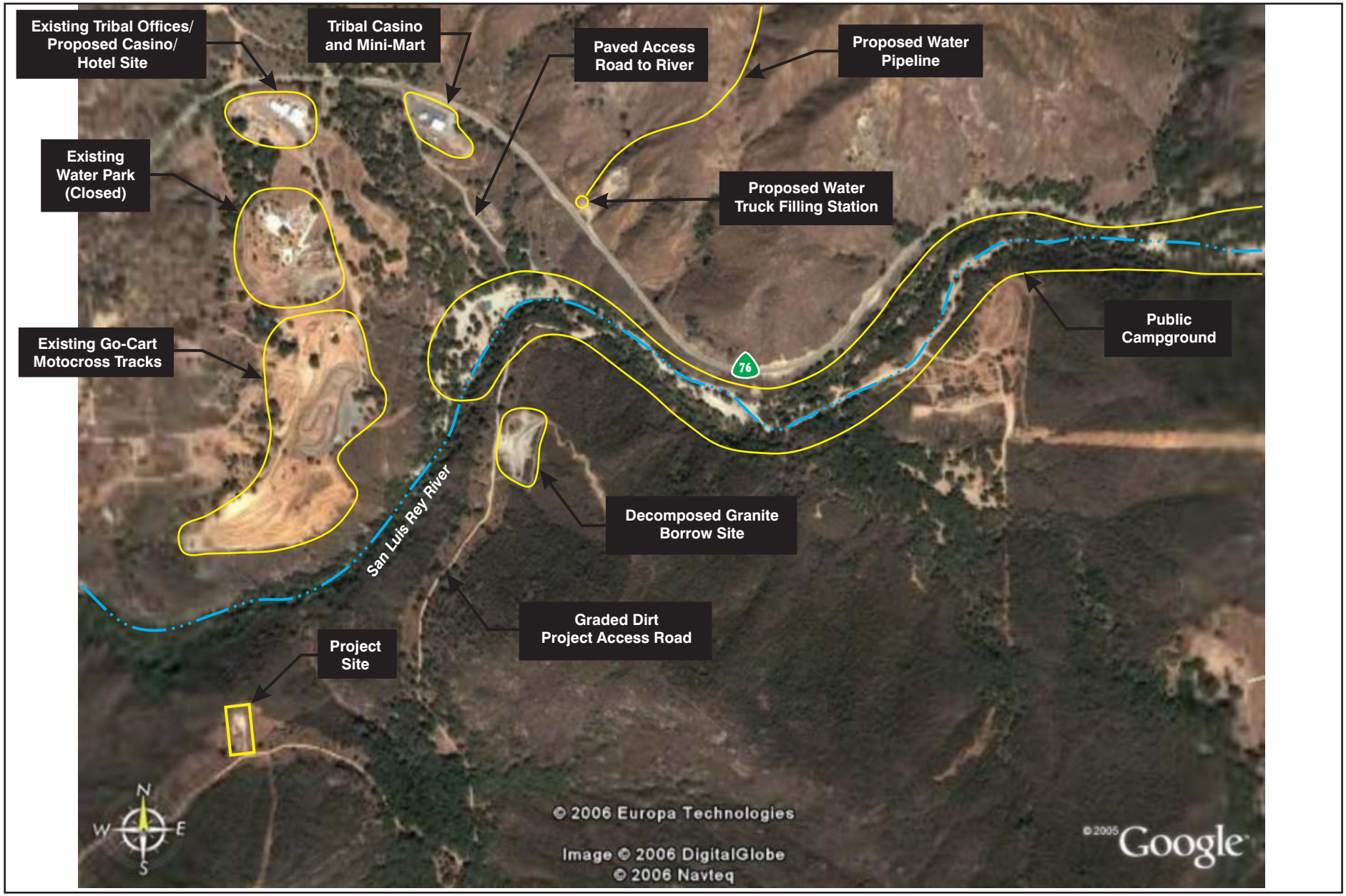
4.7.3 Public Services

No adverse effects to the disposal of solid waste, provision of electricity and natural gas, wastewater service, or the availability of water service to the project site would result from the project. Water would be required for construction only, including dust suppression along the access road and at the construction site. This water would be obtained from one of the Tribe's out-of-service pump houses. These pump houses are fully functional, but are not currently being used to supply water to the Reservation on a regular basis. The Tribe has sufficient quantities of water to fill a water truck during construction.

A dumpster pad and dumpster are proposed to be added to the septage treatment facility. This would necessitate periodic collection and transportation of the screened debris to a solid waste facility, thus resulting in a slight increase in the quantity of waste hauled from the Reservation by Waste Management of San Diego to the Ramona Landfill. The volume of trash that would be generated at the septage treatment facility would be minimal and would not result in an adverse effect. None of the debris that enters the existing septage pond is currently collected or disposed of.

Cut and fill would be balanced on the project site by using excavated materials to construct berms around the created ponds. Vegetation would be mulched and stockpiled with topsoil for distribution over graded areas following construction. There would be minimal debris created by project construction. The Tribe would contract with Waste Management of San Diego to provide a debris box during construction for the small amount of waste generated and a dumpster during operation of the septage disposal facility.

Construction staging is anticipated to take place on the project site. A secondary option is the use of a decomposed granite borrow site located approximately half way up the access road. This site is completely disturbed and the Tribe frequently parks excavation and haul equipment at this location. Figure 6 shows the location of the borrow site and other development features on the Reservation.



SOURCE: Google Earth

Figure 6
Cumulative Tribal Development

0 500 1000
F E E T
Approximate Scale

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4.7.4 Other Resource Use Patterns

The Preferred Alternative would not have an adverse effect on hunting, fishing, or gathering activities, timber harvesting, agriculture, mining, or recreation. Nor would the project have an effect on any prime farmland, unique farmland or farmland of statewide importance or any agricultural operations.

An existing borrow site for decomposed granite is located along the access road to the project site, beyond the locked gate. This area, which is completely graded and lacks sensitive resources, would be used for the staging of construction equipment and materials if necessary. It is anticipated, however, that there will be adequate room on the project site for all equipment and materials.

4.8 Other Values

4.8.1 Sound and Noise

Construction would consist of grading, digging and backfilling with standard diesel powered equipment. There are no sensitive receptors near the remote project site. Construction noise would not be likely to be noticed elsewhere on the Reservation and certainly would not be adverse.

4.8.2 Public Health and Safety

The project would not introduce the storage, transport or use of hazardous materials to the project area and vicinity. Sanitary conditions would be improved at the septage treatment facility. Construction activities would comply with Occupational Safety and Health Administration (OSHA) standards. Trash would be separated from the septage through a screening process at the time of disposal. This trash would be placed in an onsite dumpster for disposal in a local landfill.

4.8.3 Visual Resources/Aesthetics

The Preferred Project site is located in a remote location and the proposed facilities consist of four ponds surrounded by earthen berms. The lagoons would be 4’ – 5’ deep, and the fermentation pits would be 18’ – 24’ deep. Therefore, these project features would not be visible unless one was to look down on them. The proposed chain-link fence, which would replace the fence surrounding the existing evaporation pond, would be one of the most visible permanent project features. The existing fence, however, is not visible from other

areas of the Reservation. The proposed screening facility and dumpster would increase the visibility of the site somewhat, but the distance from other developed areas on the Reservation would preclude any adverse effects.

4.9 Environmental Effects of the No Action Alternative

Under the No Action Alternative, the existing evaporation pond would continue to represent a threat to the environment and public health. The potential for overflow would increase with increased quantities of septage disposal by the Tribe.

Under the No Action Alternative, there would not be any construction activities and all potential impacts associated with construction, such as living resources, noise and air quality, would be avoided.

As with the Proposed Action, under the No Action Alternative, there would not be any adverse effects to cultural resources, the transportation network on the Reservation, land use, or on public services. Further, the No Action Alternative would not have an adverse effect on hunting, fishing, or gathering activities, timber harvesting, agriculture, mining, recreation, or prime farmland, unique farmland or farmland of statewide importance or any agricultural operations.

5.0 CUMULATIVE EFFECTS

Cumulative effects are effects on the environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Anticipated growth on the Reservation will occur as individual projects are developed by the Tribal Council. Any future project-specific development plans on the Reservation that could potentially result in adverse impacts will need to be analyzed to ensure that no significant impacts, including those of a cumulative nature, result without adequate mitigation.

The Tribe is currently planning the construction of a casino, hotel, and new Tribal offices. The casino/hotel is planned to include its own wastewater treatment plant and would not add to the need for septage disposal. Planning and environmental review have not been completed and the Tribal Council has not approved the construction of the casino/hotel project. The cumulative impacts of a casino and hotel on the Reservation will be addressed in the environmental document for that project.

The casino and hotel project includes a new stand-alone wastewater treatment facility to serve the proposed development intensity and cumulative impacts related to wastewater disposal would not occur. Once again, environmental review of this project has not been completed and this project has not been approved. Should this project be approved, surface waters on and adjacent to the Reservation would be protected by incorporation of required erosion and sedimentation measures for individual projects. Cumulative impacts related to soil erosion or surface water quality would not occur.

Cumulative impacts from Indian gaming can include the development of other facilities in the project area by tribes or other individuals; the impact of additional gaming revenues on tribal and local economies; associated growth in the project area; and the impact on resources and services resulting from the development of gaming and other reasonable foreseeable development (NIGC n.d).

Other than the proposed casino and hotel project, the only other Tribal development project anticipated at this time is a commercial water export project located east of the proposed project site, along the north side of SR-76. The commercial water export project consists of a fee-to-trust transfer of a 10.27-acre parcel on Palomar Mountain and the subsequent construction of a pipeline down the mountain to SR-76. The property is currently in private ownership and the Tribe is in the process of purchasing the property from the owner. The Tribe has requested that the land be transferred into federal trust status simultaneously

upon acquisition. The water pipeline would connect to a proposed 20,000-gallon storage tank that would be located along State Route 76. The water storage tank would be used for commercial water export by tanker truck under a joint venture agreement between the Tribe and Palomar Resources. The Tribe would lease the property on Palomar Mountain to a joint venture entity, Jewel Resources. The Bureau of Indian Affairs would review the lease agreement as part of the fee-to-trust application. The fee-to-trust property would largely remain in its current undeveloped condition.

The BIA, as the lead federal agency under NEPA, completed an Environmental Assessment for the water export project, which analyzed the potential for significant cumulative impacts from that project and development of a casino and hotel project on the Reservation. It was determined that no significant cumulative impacts would occur with respect to development of these two projects.

No cumulative surface or groundwater impacts are anticipated as the casino and hotel project would not use Cedar Creek water resources. These projects would not rely on the same groundwater resources anticipated to be used for the proposed water export project.

The Tribe has prepared a Water Management Plan (Teel et al. 2004) addressing current and future needs for well water and wastewater disposal within the entire Reservation. Development of additional Tribal housing, a casino and hotel facility, and expansion of the campground were included in the analysis. It was determined that adequate groundwater storage and recharge exists to support these and other Tribal developments without significant cumulative impacts to water availability.

Traffic, noise, and air quality impacts would all increase incrementally with additional development on the Reservation, however the traffic study for the proposed project concluded that the future traffic condition, in 2030, with the casino and hotel trips included, would not be significant. It can be reasonably assumed that the limited and low scale future Tribal development this is anticipated would generate traffic within this parameter. The associated noise and air quality impacts would not be expected to be significant on an individual or cumulative basis.

The proposed project would not result in significant impacts to land use, geology and soils, aesthetics, surface water, noise, air quality, biological resources, cultural resources, waste management, traffic circulation, socioeconomics, or utilities, as described in Section 3.0. Where potentially adverse project impacts have been identified, mitigation measures have been incorporated into the project design and operations to reduce the impacts to less than significant.

6.0 MITIGATION MEASURES

6.1 Land Resources

None required.

6.2 Water Resources

Adverse effects to water resources were found to be avoided through the implementation of Best Management Practices (BMPs). Therefore, BMPs shall be implemented during project construction, with an emphasis on the protection of the San Luis Rey River. BMPs may consist of the use of swales, detention basins, hay bales, straw waddles, silt curtains, and gravel bags as well as hydroseeding and the preservation of vegetated buffers between areas of excavation and stream channels. Selection of the appropriate BMPs may be at the discretion of the project engineer and contractor.

6.3 Air Quality

None required.

6.4 Living Resources

None required.

6.5 Cultural Resources

None required.

6.6 Socioeconomic Conditions and Environmental Justice

None required.

6.7 Resource Use Patterns

None required.

6.8 Other Values

6.8.1 Sound and Noise

None required.

6.8.2 Public Health and Safety

All material collected at the septage disposal site shall be disposed of in a local landfill in accordance with all applicable regulations. This material will be dewatered and is not anticipated to require any special handing.

6.8.3 Visual Resources/Aesthetics

None required.

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8.0 PERSONNEL AND CONSULTATION/COORDINATION

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The following personnel at TIERRA ENVIRONMENTAL SERVICES contributed to the preparation of this Environmental Assessment:

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Chris Nordby, Principal Biologist
Monica Alfaro, Associate Biologist
Erika Alfaro, Associate Biologist
Ed Woch, Associate Biologist
Patrick McGinnis, Senior Archaeologist
Carole Henninger, Graphic Artist

8.2 Consultation/Coordination

The following agencies and persons were consulted for their input regarding existing environmental conditions and analyses of the proposed actions' environmental consequences:

La Jolla Band of Luiseño Indians
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DRAFT
ENVIRONMENTAL ASSESSMENT
FOR THE
LA JOLLA SEPTAGE TREATMENT SYSTEM
IMPROVEMENT
PROJECT

(APPENDICES A AND B)

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APPENDIX A
BIOLOGICAL RESOURCES DOCUMENTATION

APPENDIX B
CULTURAL RESOURCES DOCUMENTATION